

Yours truly
O. W. Piceneau, M.D.

THE PEOPLE'S
COMMON SENSE
MEDICAL ADVISER
IN PLAIN ENGLISH;
OR,
MEDICINE SIMPLIFIED

BY
R. V. PIERCE, M. D.

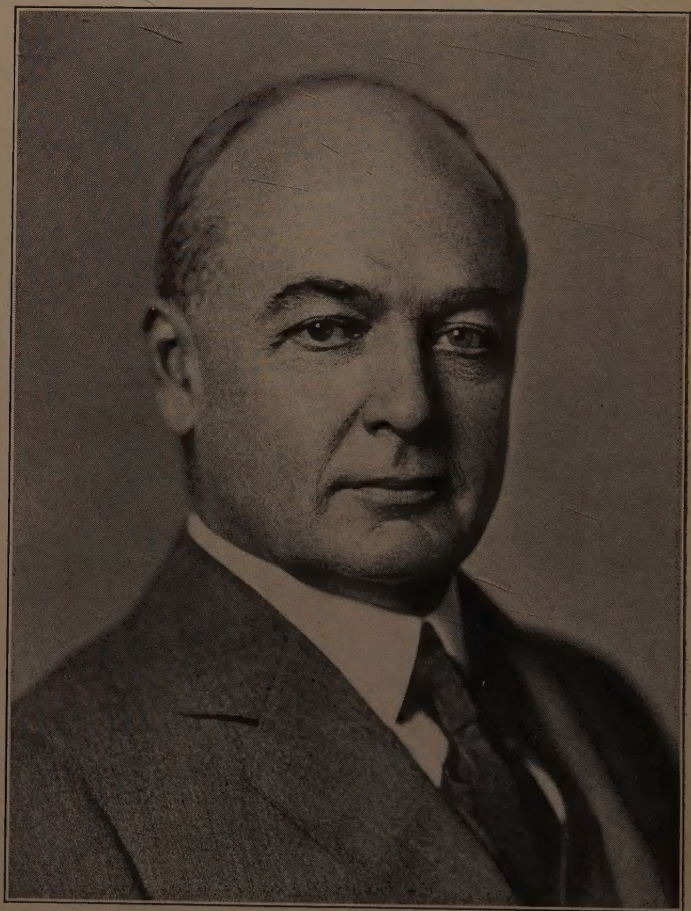
NINETY-NINTH EDITION

THREE MILLION ONE HUNDRED AND EIGHTY-EIGHT THOUSAND

*Carefully Revised by V. M. Pierce, M. D., and Lee H. Smith, M. D.
assisted by the full Staff of Associate Specialists in Medicine and
Surgery, the Faculty of the Invalids' Hotel and Surgical Institute.*

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V. W. Pierce, M. D.



Wm. H. Smith. N.Y.

TO
MY PATIENTS,

WHO HAVE SOLICITED MY PROFESSIONAL SERVICES,

FROM THEIR HOMES

IN EVERY STATE, CITY, TOWN, AND ALMOST EVERY HAMLET,

WITHIN THE AMERICAN UNION;

ALSO TO THOSE DWELLING IN CANADA, EUROPE, MEXICO, SOUTH

AMERICA, THE EAST AND WEST INDIES,

AND OTHER FOREIGN LANDS,

I RESPECTFULLY DEDICATE

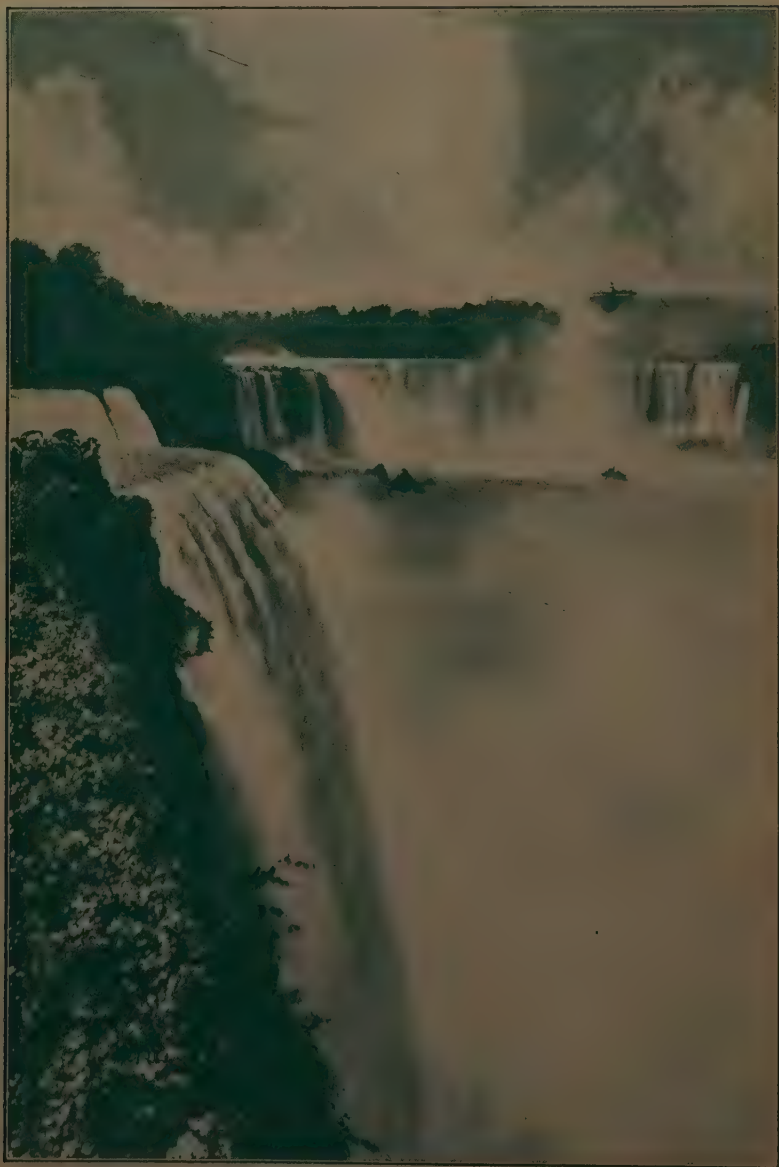
THIS WORK.

TAKE NOTICE

We wish to spare our patients who have gratefully given us the testimonials in this book unnecessary correspondence, and have therefore omitted their addresses.

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PREFACE TO THE PRESENT EDITION.

The popular favor with which former editions of this work have been received have required the production of such a vast number of copies, that the original electrotypes plates from which it has heretofore been printed, have been completely worn out and it has become necessary to reset the work throughout.

Every family needs a COMMON SENSE MEDICAL ADVISER. The frequent inquiries from his numerous patients throughout the land, suggested to the Author the importance and popular demand for a reliable work of this kind. Consequently, he has been induced to prepare and publish an extensive dissertation on Physiology, Hygiene, Diseases and Domestic Remedies, etc. It is for the interest and welfare of *every* person, not only to understand the means for the preservation of health, but also to know what remedies should be employed for the alleviation of the common ailments of life.

The frequency of accidents of all kinds, injuries sustained by machinery, contusions, drowning, poisoning, fainting, etc., and also of sudden attacks of painful diseases, such as headache, affections of the heart and nerves, inflammation of the eye, ear and other organs, renders it necessary that non-professionals should possess sufficient knowledge to enable them to employ the proper means for speedy relief. To impart this important information is the aim of the Author.

In the present edition is included some of the modern forms of treatment without medicine. Foremost of these is the X-ray, which not only gives an insight into the interior parts of the

body, but is of great value in the treatment of cancer, tumors and skin diseases. With the newer high voltage machines which give voltages up to 200,000 and more, a very penetrating ray is obtained, which in some forms of cancer and in some tumors produces results equal to those obtained by radium. Other forms of treatment are the Sinusoidal and the Violet ray. A few minutes under their sedative influence and neuralgia, rheumatism and similar pains are relieved.

Although some of these subjects may seem out of place in a work designated for *every* member of the family, yet they are presented in a style which cannot offend the most fastidious, and with a studied avoidance of all language that can possibly displease the chaste, or disturb the delicate susceptibilities of persons of either sex.

The book should not be excluded from the young, for it is eminently adapted to their wants, and imparts information without which millions will suffer untold misery. It is a *false* modesty which debars the youth of our land from obtaining such information.

Preparation of a new edition has afforded the Author an opportunity to carefully revise the book and re-write some portions, that it may embody the latest discoveries and improvements in medicine and surgery. In performing this labor he has been greatly assisted by contributions and valuable aid kindly supplied by his staff of associate specialists in medicine and surgery who constitute the Faculty of the Invalids' Hotel and Surgical Institute.

That part of the book treating of Diseases and Their Remedies will be found to be thoroughly reliable; the prescriptions recommended therein having all received the sanction and endorsement of medical gentlemen of rare professional attainments and mature experience.

BUFFALO, OCTOBER 1, 1926.

THE AUTHOR.

PART I.

FIRST AID.

CHAPTER I.

EMERGENCIES.

A physician should be called upon in all cases of injury or serious emergency or disease where possible.

This book is intended to be helpful in emergency or where skilled service can not be promptly secured.

Often lives are lost or in danger where a doctor can not be had promptly.

Every person should be familiar with the simple methods that are herein described as it may save you or a dear one much pain, or even life.

Keep cool, control yourself and others, so as to give most effective help.

SHOCK, COLLAPSE, FAINTING.

The patient may be unconscious or the mind may wander—body cold.

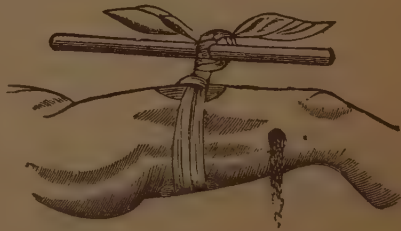
Face white, pinched, anxious, eyes dull, pupils dilated.

The heart acts rapidly, a weak pulse, shivering, faintness.

The *danger* is death from heart failure.

SEVERE BLEEDING is one of the common causes of shock and should be first controlled; if from the womb, pack the vagina with a tampon or gauze bandage roll pressed well up against the mouth of the womb. (See page 722.)

If from a wound apply a tourniquet, which consists of a pad to go on the artery with a handkerchief, towel or strip of firm cloth to hold it in place. This is put loosely around the limb, and a stick inserted and used to twist the cloth until it is tight and the bleeding stops.



The Field Tourniquet as applied.

Until this can be applied, the bleeding should be stopped by firm pressure with the thumbs or fingers.



Mode of employing flexion for the arrest of hemorrhage from a wound located below the elbow.

BLEEDING from an *artery* is bright red, comes in spurts, and is most dangerous, that from a *vein* is steady and of a



Bleeding from an *artery* is aided by pressure.

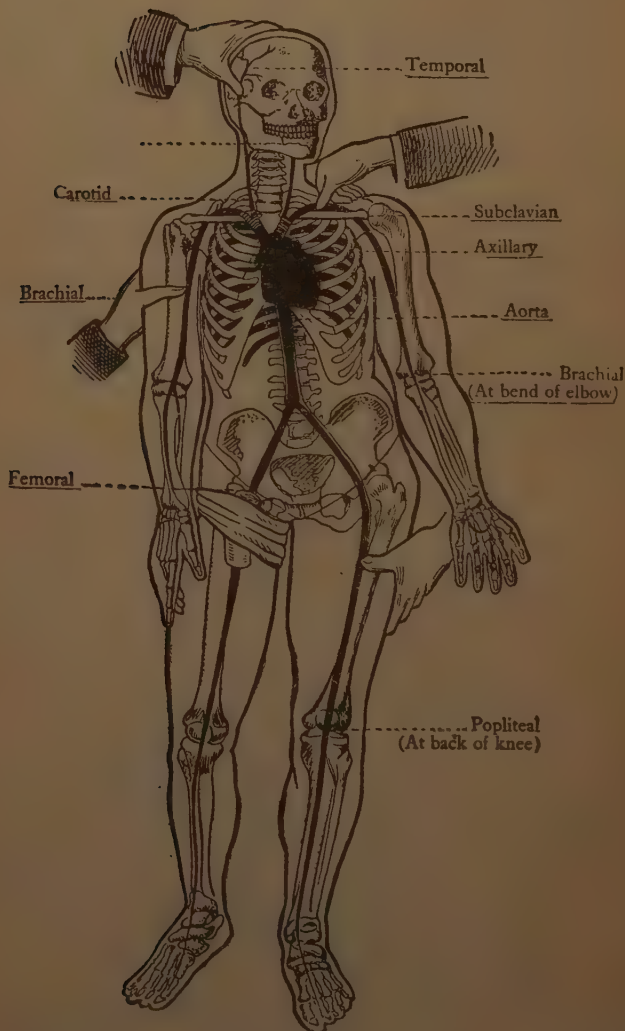
dark blue color, while capillary hemorrhage is a brick red oozing not easily controlled by pressure.



Bleeding from a *capillary*.

A clot of fibrin will usually form in a blood vessel and naturally stop a hemorrhage in about twenty minutes, if aided by pressure.

LOCATION OF ARTERIES.



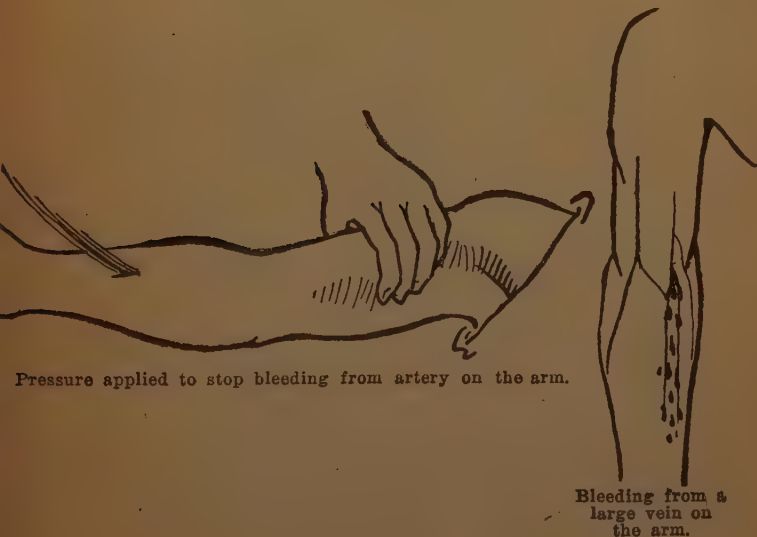
The arteries in black to indicate where pressure should be applied to check bleeding.

CUTS AND WOUNDS.

If there is a spurt of blood, apply pressure with the finger, thumb or palm, as the size of the wound may make it necessary.

Look at the diagram on page 12 showing the location of the arteries and apply pressure to them, or a tourniquet, and then properly dress the wound.

Dirt and foreign bodies should be removed with hot water, and if it can be had, Tincture of Iodine may be applied in a strength of about fifteen drops in two table-spoonfuls of water, or a like amount of spirits of camphor, alcohol, or twice as much whiskey.



Dress with a clean pad of cloth, and surround with a suitable bandage as described on the pages that follow.

If there is shock or faintness, follow the directions given under that heading.



Pressure on artery applied behind the knee
to stop bleeding from the leg.

Treatment—Place patient on back, with head low, so that the blood can easily enter the brain. Loosen the clothing.

Warm the body with hot bricks, or hot water bottles, with flannels wrung out of hot water to chest and stomach, and stimulate the circulation by brisk rubbing under blankets, or other covering—rub toward the body.

Give plenty of good fresh air by fanning—ammonia water on the fan will help.

Stimulants may be given.

Swallowing is difficult, and patient may strangle. Give only a few drops at first.

If patient can swallow stimulants may be given; such as (a) hot coffee or tea, (b) a tablespoonful of whiskey in hot water, (c) twenty drops of ammonia—the best form being the aromatic spirits in hot water—or (d) ten drops of spirits of camphor.

These may be given by injection into the lower bowel if the patient cannot swallow.



Pressure applied high up in the front and centre of the thigh for wound of femoral artery.

SUFFOCATION.

When the sufferer is a child, strangled by whooping cough, or a foreign body, clear the throat with a cloth by pulling the tongue forward and wiping anything out; then the sufferer may be held up by the feet, head downwards. This tends to favor the expulsion of a foreign body or fluid, and to open the glottis.

Pressure is applied to the short ribs, relax the pressure so that the air may enter the lungs, count four slowly, thus giving four seconds interval; repeat steadily.

Sometimes a smart slap on the back will dislodge a foreign body.

If natural breathing does not soon recur, resort to the Schaefer method as follows:

ARTIFICIAL RESPIRATION

for suffocation due to drowning, or other causes, such as breathing of poisonous gases.

Lay the patient flat, slightly on one side, **back uppermost**, pull the arm underneath upward and bend it, so that it will lay under the forehead.



The face must be placed to one side so that the air will not be blocked from entering the nose and mouth, sometimes it is wise to pull the tongue forward to let any water or mucus drain out.

Kneel at one side or astride the body, but do not rest any weight upon the subject.

Place the hands on each side of the chest low down across the short ribs, the thumb-tips about a finger's length apart, the palms and fingers extending around the ribs.



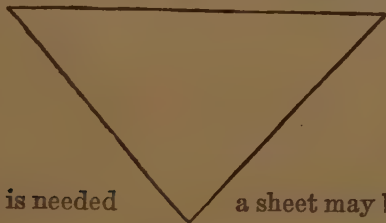
Press down with sufficient weight to expel the air from the lungs.

Release the pressure and the air will rush into the lungs—count four seconds, slowly, and repeat the process regularly.

Persons have been thus revived even when it has been necessary to keep up this artificial respiration for an hour and a half. Patience and perseverance are required.

BANDAGES.

The TRIANGULAR BANDAGE is one of the most valuable. Two can be made from a piece of cloth about a yard square cut diagonally across from the most distant corners.



If a larger size is needed

a sheet may be cut likewise.

Method of applying TRIANGULAR BANDAGE for dressing of a wound or burn of the hand.



First step.



Second stage.



Third stage.



Final tie at wrist.

Folded of such width as may be necessary it makes a Cravat



For the neck.



Applied to the jaw.



Method of application for injury of the eye, forehead or side of face.



Applied to hold compress upon the eye.

Method of applying the TRIANGULAR BANDAGE in Cravat roll for a wound of the palm or the back of the hand.





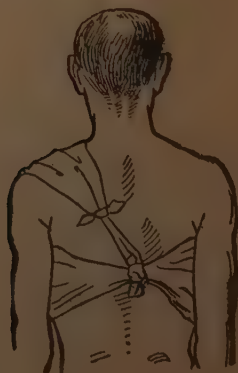
Method of applying for a dressing of the scalp.



TRIANGULAR BANDAGE applied to the foot and ankle.

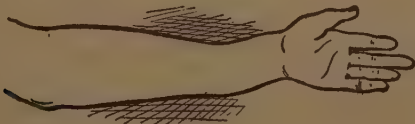


TRIANGULAR BANDAGE applied as a sling or as a supporting dressing for the forearm.



A BROKEN FOREARM.

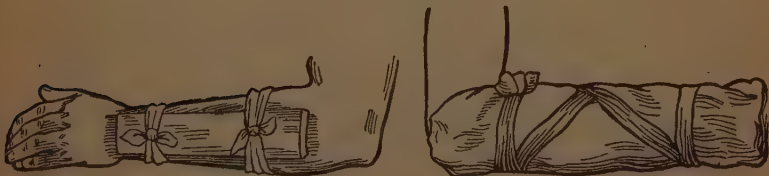
The appearance usually shows by the deformity where the bones are fractured.



Sometimes the broken bones have cut through the skin.



Straighten the broken bones by gently drawing them into place and apply a splint well padded with cotton or clean cloths.



The usual method is to cleanse the surface with hot water and apply a temporary dressing until a physician's care can be had.

A TRIANGULAR BANDAGE may then be applied as illus-



trated or if not to be had the sleeve may be pinned to the



shirt or waist front as shown in these diagrams.

A BROKEN UPPER ARM.

Where this is present the arm should be supported with a well padded splint applied between the shoulder and



elbow, then apply a TRIANGULAR BANDAGE as a sling to hold the weight of the lower arm and hand from dragging upon the broken bones. This dressing will give support and reasonable comfort until a competent surgeon can be had. In all fractures to prevent deformity skilful care should be speedily obtained.

A BROKEN COLLAR-BONE.

Where this is present a depression on the bone can be felt with the fingers. Unable to raise arm. Treat shock and dress as follows until surgeon can be had:

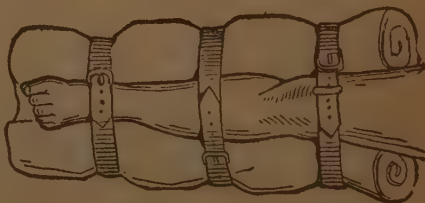
Place a soft pad a little over a half inch in thickness in the arm pit, bend the elbows so that the forearm and hand will rest across the upper part of waist and hold in place with a sling as illustrated.



A BROKEN LEG.

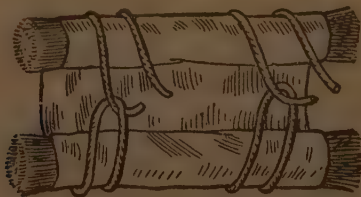
Roll up a blanket so as to make a trough in which the leg can be gently placed. Applying one palm above and the other below the break—underneath the leg, lift gently and have support drawn under the fracture. A pillow may be used.

The toes and foot should be held in the same general position as on the uninjured leg—not turned outward nor inward.



If patient must be moved get two splints one for each side of the leg. They must reach from above the knee to the heel. Thin light boards will answer.

They must be applied outside the pillow or blanket-roll and held in place by several bandages or straps.



None of these supporting straps should pass over the point of fracture or pain will be severe. In case of emergency a cane or an umbrella may be used for the outer splint and the other leg used for the inner splint. All held comfortably in place by bandages and padding.

FRACTURED THIGH.

The patient cannot stand but usually the thick muscles prevent detection of the fracture.

A long splint or thin board must be used for the emergency treatment of this dangerous fracture. It must reach from the arm pit to the heel; fix in place with not less than seven encircling strips that should be applied to the chest as well as to the well padded limb.



An inner strip from the crotch to the foot is helpful but if not to be had tie the thighs and legs together. Pneumonia is a common after complication. Keep patient warm and speedily secure expert attendance.

CHAPTER II.

BURNS AND SCALDS. Sunburn.

Never drag the clothing off of a burn or a scalded part of the body. Cut off all the cloth you can with scissors and soak what remains stuck to the wound with olive or castor oil, vaseline, fresh lard or cream. Remove only when it comes off readily.

Baking Soda made into a thin paste with water should be smeared over the surface to keep it from the air.

Then apply the same paste to a cloth and cover the wound and apply a light bandage to keep it in place.



Burn.



Dressing for palm.

Treat shock or faintness with hot drinks, fresh air, and rest in bed.

Burns from acids—Treatment—wash off quickly with water, baking soda and water, or apply soap-suds.

Alkali burns, as ammonia, caustic soda, etc., wash off with water and apply weak vinegar, cider, or lemon juice—again wash off, and dress as advised for other burns.



Method of support and protection for burn of wrist.

ELECTRIC SHOCK—RESCUE FROM LIVE WIRE.



Prying off wire or rail with dry wooden bar. Stand on a dry board.

Pull the sufferer quickly from the wire or electric rail, but grasp only his clothing, and this must not be wet.



Pulling patient from live wire by his coat.



Pulling patient from live wire or rail with a dry folded NEWSPAPER.

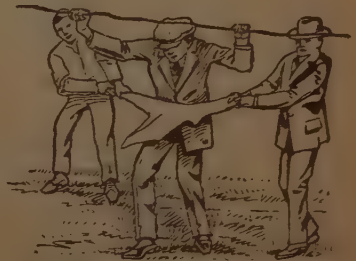
Quick action is necessary.

Protect yourself with rubber gloves or a mackintosh, rubber sheeting, several thicknesses of silk or even dry cloth. If possible, stand on a dry board, or paper, or a dry coat.



Lifting patient from live wire.

A live wire may be safely cut with a hatchet, or axe with a dry wooden handle, or the wire may be short circuited by dropping an iron bar upon it between the patient and the source of power. Be sure and let go of the bar before it touches the wire.



Pulling patient from live wire with a dry coat.

HEAT EXHAUSTION.

When an individual becomes faint, or is overcome by heat, there is usually great weakness, but seldom unconsciousness.

Symptoms: The face is usually pale and covered with clammy sweat, a weak and rapid action of the heart, and shallow breathing.

Treatment. The patient should lie down in a cool, well ventilated place.

Let him sip cold tea, iced coffee, or a little wine, or whiskey freely diluted.

For sometime afterward give one or two teaspoonfuls of Dr. Pierce's Golden Medical Discovery after meals, as a heart tonic.

SUNSTROKE.

Remove patient at once to a cool, well ventilated place. Loosen or take off as much clothing as possible.

Apply ice or cold water to face, neck, chest and arm-pits.

A cold bath may be given, or wrap the patient in a cold, wet sheet pack, rubbing briskly to prevent shock.

As consciousness returns let the patient drink freely of cold water. If the skin becomes hot, the cold pack should be again applied.

No stimulants should be given, but for several days one or two teaspoonfuls of that excellent heart tonic, Dr. Pierce's Golden Medical Discovery, should be given after meals.

FREEZING.

Gradually restore the warmth to the body by rubbing the limbs toward the body. As soon as conscious give hot tea or coffee in small quantities, or a little hot whiskey or brandy in frequently repeated small doses.

When the pulse becomes of good strength and the skin warm the patient may be given a warm bath and put to bed.

To avoid pneumonia, move the bowels with several of Dr. Pierce's Pellets and give five or ten grains of quinine.

Two or three teaspoonfuls of Dr. Pierce's Golden Medical Discovery should be given after meals for several days.

UNCONSCIOUSNESS OR INSENSIBILITY.

Alcoholic poisoning is the most common.

Patients may usually be partially aroused, pupils are natural size, or enlarged, and the eye-balls are sensitive to touch.

Apoplexy is caused by the bursting of a blood vessel causing pressure on the brain; this usually causes an unequal size of the pupils and the eye-balls are not sensitive to the touch, pulse is full and unnaturally slow. There is usually paralysis on one side of the body.

Treatment. Rest the patient with the head elevated. Apply ice or cold cloths to the head; heat should be applied to the limbs.

Give no stimulants.

For Drunkenness, give an emetic of mustard and lukewarm water, followed with strong coffee, or a half teaspoonful of aromatic spirits of ammonia in water.

Keep patient warm and follow the advice given for Shock and Collapse.

Afterward strengthen the heart by using Dr. Pierce's Golden Medical Discovery in teaspoonful doses after meals, and absolutely prevent the further use of alcohol.

The bowels must be kept loose with Dr. Pierce's Pellets. This helps to carry off the poisonous narcotic matter from alcohol.

Gentle, regular exercises should be insisted upon, with frequent baths.

The Discovery may be taken before meals if the appetite is poor.

Soon the system will be built up and the individual will be mentally and physically much improved.

Alcohol is a narcotic poison with a stimulating effect that is very transitory.

CHAPTER III.

PHYSIOLOGICAL ANATOMY.

THE MUSCLES.

The *Muscles* are those organs of the body by which motion is produced, and are commonly known as *flesh*. A muscle is composed of *fasciculi*, or bundles of fibers, parallel to one another. They are soft, varying in size, of a reddish color, and inclosed in a cellular, membranous sheath. Each *fasciculus* contains a number of small fibers, which, when subjected to a microscopic examination, are found to consist of *fibrillæ*, or

Fig. 19.



Muscular fibers highly magnified.

little fibers; each of these fibrillæ in turn being invested with a delicate sheath. The fibers terminate in a glistening, white *tendon*, or hard cord, which is attached to the bone. So firmly are they united, that the bone will break before the tendon can be released. When the tendon is spread out, so as to resemble a membrane, it is called *fascia*. Being of various extent and thickness, it is distributed over the body, as a covering and protection for the more delicate parts, and aids also in motion, by firmly uniting the muscular fibers. The spaces between the muscles are frequently filled with

fat, which gives roundness and beauty to the limbs. The muscles are of various forms; some are longitudinal, each extremity terminating in a tendon, which gives them a *fusi-form* or spindle-shaped appearance; others are either fan-shaped, flat, or cylindrical.

Every muscle has an *origin* and an *insertion*. The term *origin* is applied to the more fixed or central attachment of a

Fig. 20.



1. A spindle-shaped muscle, with tendinous terminations. 2. Fan-shaped muscle. 3. Penniform muscle. 4. Bipenniform muscle.

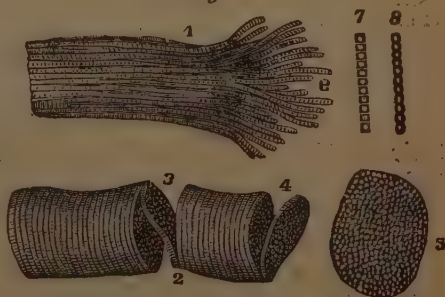
muscle, and the term *insertion* to the movable point to which the force of the muscle is directed; but the origin is not absolutely fixed, except in a small number of muscles, as those of the face, which are attached at one extremity to the bone, and at the other to the movable integument, or skin. In most instances, the muscles may act from either extremity. The muscles are divided into the Voluntary, or muscles of animal life, and

the Involuntary, or muscles of organic life. There are, however, some muscles which cannot properly be classified with either, termed Intermediate.

The *Voluntary Muscles* are chiefly controlled by the will, relaxing and contracting at its pleasure, as in the motion of the eyes, mouth, and limbs. The fibers are of a dark red color, and possess great strength. These fibers are parallel, seldom interlacing, but presenting a striped or striated appearance; and a microscopic examination

of them shows that even the most minute consist of parallel filaments marked by longitudinal and transverse *striæ*, or minute channels. The fibers are nearly the same length as the muscles to which they belong. Each muscular fiber is capable of contraction; it may act singly, though usually it acts in unison with others. By a close inspection, it has been found that

Fig. 21.



- Striped muscular fibers, showing cleavage in opposite directions. 1. Longitudinal cleavage. 2. Transverse cleavage. 3. Transverse section of disc. 4. Disc nearly detached. 5. Detached disc, showing the sarcous elements. 6. Fibrillæ. 7, 8. Separated fibrillæ highly magnified.

fibers may be drawn apart longitudinally, in which case they are termed *fibrillæ*, or they may be separated transversely,

Fig. 22.



Unstriated muscular fiber; at *b*, in its natural state; at *a*, showing the nuclei after the action of acetic acid.

forming a series of discs. The *Sarcolemma*, or investing sheath of the muscles, appears to be formed even before there are any visible traces of the muscle itself. It is a transparent and delicate membrane, but very elastic. The *Involuntary Muscles* are influenced by the sympathetic nervous system, and their action pertains to the nutritive functions of the body. They differ from the voluntary muscles in not being striated, having no tendons, and in the net-work arrangements of their fibers. The *Intermediate Muscles* are composed of striated and unstriated fibers; they are, therefore, both voluntary and involuntary in their functions. The muscles employed in respiration are of this class, for we can breathe rapidly or slowly, and, for a short time, even sus-

pend their action; but soon, however, the organic muscles assert their instinctive control, and respiration is resumed.

The Diaphragm, or midriff, is the muscular division between the thorax and the abdomen. It has been compared to an inverted basin, the concavity of which is directed toward the abdomen. The muscles receive their nourishment from the numerous blood-vessels which penetrate their tissues. The voluntary muscles are

Fig. 23.



A view of the under side of the diaphragm.

The voluntary muscles are

Fig. 24.



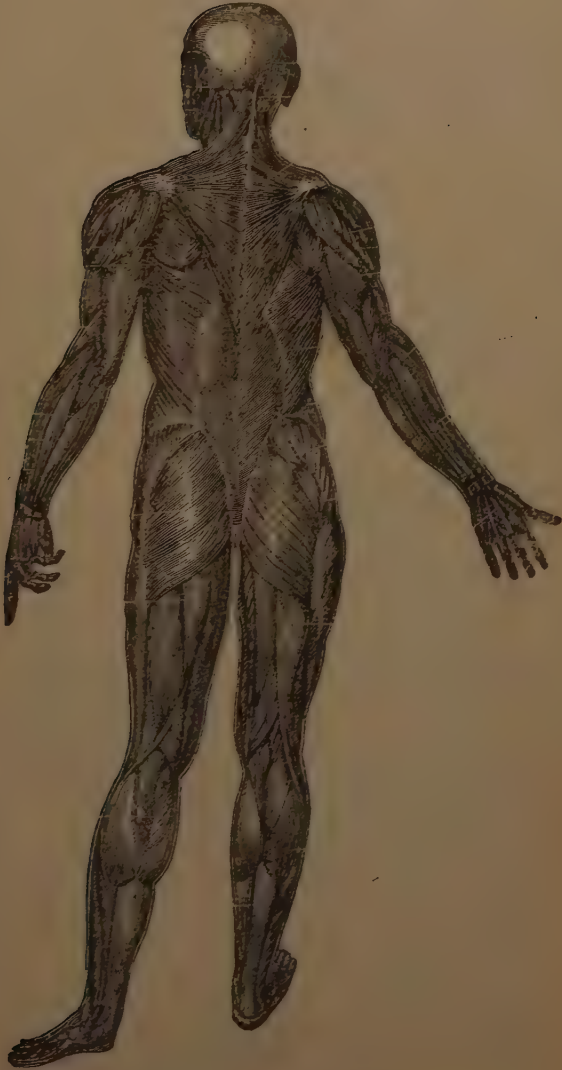
A representation of the superficial layer of muscles on the anterior portion of the body.

directed toward the abdomen. The muscles receive their nourishment from the numerous blood-vessels which penetrate their tissues. The voluntary muscles are abundantly supplied with nerves, while the involuntary are not so numerously furnished. The color of the muscles is chiefly due to the blood which they contain. They vary in size according to their respective functions. For example, the functions of the heart require large and powerful muscles, and those of the eye, small and delicate ones. There are between four hundred and sixty and five hundred muscles in the human body.

Very rarely is motion produced by the action of a single muscle, but by the harmonious action of several. There is infinite variety in the arrangement of the muscles, each being adapted to its purpose, in strength, tenacity, or elasticity. While some involuntarily respond to the wants of organic life, others obey, with mechanical precision, the edicts of the will. The peculiar characteristic of the muscles is their contractility; for example, when the tip of the finger is placed in the ear, an incessant vibration, due to the contraction of the muscles of the ear, can be heard. When the muscles contract, they become shorter; but what is lost in length is gained in breadth and thickness, so that their actual volume remains the same. Muscles alternately contract and relax, and thus act upon the bones. The economy of muscular power thus displayed is truly remarkable. In easy and graceful walking, the forward motion of the limbs is not altogether due to the exercise of muscular power, but partly to the force of gravity, and only a slight assistance of the muscles is required to elevate the leg sufficiently to allow it to oscillate.

Motion is a characteristic of living bodies. This is true, not only in animals, but also in plants. The oyster, although not possessing the power of locomotion, opens and closes its shell at pleasure. The coral insect appears at the door of its cell, and retreats at will. All the varied motions of animals are due to a peculiar property of the muscles, termed *contractility*. Although plants are influenced by external agents, as light, heat, electricity, etc., yet it is supposed that they may move in response to inward impulses. The sensitive stamens of the barberry, when touched at their base on the inner side, resent the intrusion, by making a sudden jerk forward. Venus's fly-trap, a plant found in North Carolina, is remarkable for the

Fig. 25.



A representation of the superficial layer of muscles on the posterior portion of the body.

sensitiveness of its leaves, which close suddenly and capture insects which chance to alight upon them. The muscles of the articulates are situated within the solid frame-work, unlike the vertebrates, whose muscles are external to the bony skeleton. All animals have the power of motion, from the lowest radiate to the highest vertebrate, from the most repulsive polyp to that type of organized life made in the very image of God.

The muscles, then, subserve an endless variety of purposes. By their aid the farmer employs his implements of husbandry, the mechanic deftly wields his tools, the artist plies his brush, while the fervid orator gives utterance to thoughts glowing with heavenly emotions. It is by their agency that the sublimest spiritual conceptions can be brought to the sphere of the senses, and the noblest, loftiest aims of to-day can be made glorious realizations of the future.

CHAPTER IV.

PHYSIOLOGICAL ANATOMY.

THE DIGESTIVE ORGANS.

Digestion signifies the act of separating or distributing, hence its application to the process by which food is made available for nutritive purposes. The organs of digestion are the Mouth, Teeth, Tongue, Salivary Glands, Pharynx, Esophagus, the Stomach and the Intestines, with their glands, the Liver, Pancreas, Lacteals, and the Thoracic Duct.

The *Mouth* is an irregular cavity, situated between the upper and the lower jaw, and contains the organs of mastication. It is bounded by the lips in front, by the cheeks at the sides, by the roof of the mouth and teeth of the upper jaw above, and behind and beneath by the teeth of the lower jaw, soft parts, and palate. The soft palate is a sort of pendulum attached only at one of its extremities, while the other involuntarily opens and closes the passage from the mouth to the pharynx. The interior of the mouth, as well as other

Fig. 26.



A view of the lower jaw. 1. The body. 2, 2. Rami, or branches. 3, 3. Processes of the lower jaw. m. Molar teeth. b. Bicuspid. c. Cuspid. i. Incisors.

portions of the alimentary canal, is lined with a delicate tissue, called *mucous membrane*.

The *Teeth* are firmly inserted in the alveoli or sockets, of the upper and the lower jaw. The first set, twenty in number, are temporary, and appear during infancy. They are replaced

by permanent teeth, of which there are sixteen in each jaw; four incisors, or front teeth, four cuspids, or eye teeth, four bicusps, or grinders, and four molars, or large grinders. Each tooth is divided into the crown, body, and root. The *crown* is the grinding surface; the *body*, the part projecting from the jaw, is the seat of sensation and nutrition; the *root* is that portion of the tooth which is inserted in the alveolus. The teeth are composed of dentine, or ivory, and enamel. The ivory forms the greater portion of the body and root, while the enamel covers the exposed surface. The small white

cords communicating with the teeth are the nerves.

Fig. 27.



The salivary glands. The largest one, near the ear, is the parotid gland. The next below it is the submaxillary gland. The one under the tongue is the sublingual gland.

The *Tongue* is a flat oval organ, the base of which is attached to the os hyoides, while the apex, the most sensitive part of the body, is free. Its surface is covered with a membrane, which, at the sides and lower part, is continuous with the lining of the

mouth. On the lower surface of the tongue, this membrane is thin and smooth, but on the upper side it is covered with numerous papillæ, which, in structure, are similar to the sensitive papillæ of the skin.

The *Salivary Glands* are six in number, three on each side of the mouth. Their function is to secrete a fluid called *saliva*, which aids in mastication. The largest of these glands, the *Parotid*, is situated in front and below the ear; its structure, like that of all the salivary glands, is cellular. The *Submaxillary* gland is circular in form, and situated midway between the angle of the lower jaw and the middle of the chin. The

Sublingual is a long flattened gland, and, as its name indicates, is located below the tongue, which when elevated, discloses the saliva issuing from its porous openings.

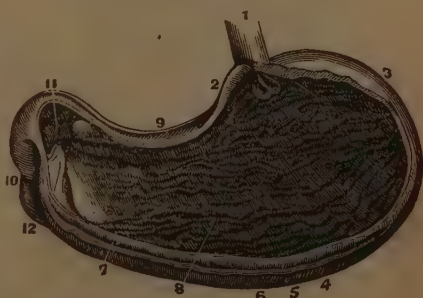
The *Pharynx* is nearly four inches in length, formed of muscular and membranous cells, and situated between the base of the cranium and the esophagus, in front of the spinal column. It is narrow at the upper part, distended in the middle, contracting again at its junction with the esophagus. The pharynx communicates with the nose, mouth, larynx, and esophagus.

The *Esophagus*, a cylindrical organ, is a continuation of the pharynx, and extends through the diaphragm to the stomach. It has three coats: First, the muscular, consisting of an exterior layer of fibers running longitudinally, and an interior layer of transverse fibers; second, the cellular, which is interposed between the muscular and the mucous coat; third, the mucous membrane, or internal coat, which is continuous with the mucous lining of the pharynx.

The *Stomach* is a musculo-membranous, conoidal sac, communicating with the esophagus by means of the cardiac orifice (see Fig. 28). It is situated

obliquely with reference to the body, its base lying at the left side, while the apex is directed toward the right side. The stomach is between the liver and spleen, subjacent to the diaphragm, and communicates with the intestinal canal by the pyloric orifice. It has three coats. The peritoneal, or external coat is composed of compact, cellular tissue, woven into a thin, serous membrane, and assists in keeping the stomach in place. The middle coat is formed of three layers of muscular fibers: In the first, the fibres run longitudinally; in the second, in a circular direction; and in the third, they are placed obliquely

Fig. 28.



A representation of the interior of the stomach.
 1. The esophagus. 2. Cardiac orifice opening into the stomach. 6. The middle or muscular coat. 7. The interior or mucous coat. 10. The beginning of the duodenum. 11. The pyloric orifice.

to the others. The interior, or mucous coat, lines this organ. The stomach has a soft, spongy appearance, and, when not distended, lies in folds. During life, it is ordinarily of a pinkish color. It is provided with numerous small glands, which secrete the gastric fluid necessary for the digestion of food. The lining membrane, when divested of mucus, has a wrinkled appearance. The arteries, veins, and lymphatics, of the stomach are numerous.

Fig. 29.



Small and large intestines.

1, 1, 2, 2. Small intestine. 3. Its termination in the large intestine. 4. Appendix vermiformis. 5. Cæcum. 6. Ascending colon. 7. Transverse colon. 8. Descending colon. 9. Sigmoid flexure of colon. 10. Rectum.

The *Intestines* are those convoluted portions of the alimentary canal into which the food is received after being partially digested, and in which the separation and absorption of the nutritive materials and the removal of the residue take place. The coats of the intestines are analogous to those of the stomach, and are, in fact, only extensions of them. For convenience of description, the intestines may be divided into the *small* and the *large*. The small intestine is from twenty to twenty-five feet in length, and consists of the Duodenum, Jejunum, and Ileum. The *Duodenum*, so called because its length is equal to the breadth of twelve fingers, is the first division of the small intestine. If the

mucous membrane of the duodenum be examined, it will be found thrown into numerous folds, which are called *valvulæ conniventes*, the chief function of which appears to be to retard the course of the alimentary matter, and afford a larger surface for the accommodation of the absorbent vessels. Numerous *villi*, minute thread-like projections, will be found scattered over the surface of these folds, set side by side, like the pile of velvet. Each *villus* contains a net-work of blood-

vessels, and a lacteal tube, into which the ducts from the liver and pancreas open, and pour their secretions to assist in the

Fig. 30.



Villi of the small intestine greatly magnified.

conversion of the chyme into chyle. The *Jejunum*, so named because it is usually found empty after death, is a continuation of the duodenum, and is that portion of the alimentary canal in which the absorption of nutritive matter is chiefly effected. The *Ileum*, which signifies something rolled up, is the longest division of the small intestine. Although somewhat thinner in texture than the jejunum, yet the difference is scarcely perceptible.

Fig. 31.



A section of the Ileum, turned inside out so as to show the appearance and arrangement of the villi on an extended surface.

The large intestine is about five feet in length, and is divided into the Cæcum, Colon, and Rectum. The *Cæcum* is about three inches in length. Between the large and the small intestine is a valve, which prevents the return of excrementitious matter that has passed into the large intestine. There is attached to the cæcum an appendage about the size of a goose-quill, and three inches in length, termed the *appendix vermiformis*. The *Colon* is that part of the large intestine which extends from the cæcum to the rectum, and which is divided into three parts, distinguished as the ascending, the transverse, and the descending. The *Rectum* is the terminus of the large intestine. The intestines are abundantly supplied with blood-vessels. The arteries of the small intestine are

from fifteen to twenty in number. The large intestine is furnished with three arteries, called the *colic arteries*. The *ileo-colic artery* sends branches to the lower part of the ileum, the head of the colon, and the appendix vermiformis. The *right colic artery* forms arches, from which branches are distributed to the ascending colon.

Fig. 32.



c, c. Right and left subclavian veins.
b. Inferior vena cava. a. Intestines.
d. Entrance of the thoracic duct into the left subclavian vein. 4. Mesenteric glands, through which the lacteals pass to the thoracic duct.

The *colica media* separates into two branches, one of which is sent to the right portion of the transverse colon, the other to the left. In its course, the *superior hemorrhoidal artery* divides into two branches, which enter the intestine from behind, and embrace it on all sides, almost to the anus.

The *Thoracic Duct* is the principal trunk of the absorbent system, and the canal through which much of the chyle and lymph is conveyed to the blood. It begins by a convergence and union of the lymphatics on the lumbar vertebræ, in front of the spinal column, then passes upward through the diaphragm to the lower part of the neck, thence curves forward and downward, opening into the subclavian vein near its junction with the left jugular vein, which leads to the heart.

The *Liver*, which is the largest gland in the body, weighs about four pounds in the adult, and is located chiefly on the right side, immediately below the diaphragm. It is a single organ, of a dark red color, its upper surface being convex, while the lower is concave. It has two large lobes, the right

being nearly four times as large as the left. The liver has two coats, the *serous*, which is a complete investment, with the exception of the diaphragmatic border, and the depression for the gall-bladder, and which helps to suspend and retain the organ in position; and the *fibrous*, which is the inner coat of the liver, and forms sheaths for the blood-vessels and excretory ducts. The liver is abundantly supplied with arteries, veins, nerves, and lymphatics. Unlike the other glands of the human body, it receives two kinds of blood; the arterial for its nourishment, and the venous, from which it secretes the bile. In the lower surface of the liver is lodged the gall-bladder, a membranous sac, or reservoir, for the bile. This fluid is not absolutely necessary to the digestion of food, since this process is effected by

Fig. 33.



The inferior surface of the liver.

1. Right lobe. 2. Left lobe. 3. Gall-bladder.

other secretions, nor does bile exert any special action upon starchy or oleaginous substances, when mixed with them at a temperature of 100° F. Experiments also show that in some animals there is a constant flow of bile, even when no food has been taken, and there is consequently no digestion to be performed. Since the bile is formed from the venous blood, and taken from the waste and disintegration of animal tissue, it would appear that it is chiefly an excrementitious fluid. It does not seem to have accomplished its function when discharged from the liver and poured into the intestine, for there it undergoes various alterations previous to re-absorption, produced by its contact with the intestinal juices. Thus the bile, after being transformed in the intestines, re-enters the blood under a new form, and is carried to some other part of the system to perform its mission.

The *Spleen* is oval, smooth, convex on its external, and irregularly concave on its internal, surface. It is situated

on the left side, in contact with the diaphragm and stomach. It is of a dark red color, slightly tinged with blue at its

Fig. 34.



Digestive Organs.

3. The tongue. 7. Parotid gland. 8. Sublingual gland. 5. Esophagus. 9. Stomach. 10. Liver. 11. Gall-bladder. 14. Pancreas. 13, 13. The duodenum. The small and large intestines are represented below the stomach.

edges. Some physiologists affirm that no organ receives a greater quantity of blood, according to its size, than the spleen. The structure of the spleen and that of the mesenteric glands are similar, although the former is provided with a scanty supply of lymphatic vessels, and the chyle does not pass through it, as through the mesenteric glands. The *Pancreas* lies behind the stomach, and extends transversely across the spinal column to the right of the spleen. It is of a pale, pinkish color, and its secretion is analogous to that of the salivary glands; hence it has been called the *Abdominal Salivary Gland*.

Digestion is effected in those cavities which we have described as parts of the alimentary canal. The food is first received into the mouth, where it is masticated by the teeth,

and, after being mixed with mucus and saliva, is reduced to a mere pulp; it is then collected by the tongue, which, aided by

the voluntary muscles of the throat, carries the food backward into the pharynx, and, by the action of the involuntary muscles of the pharynx and esophagus, is conveyed to the stomach. Here the food is subjected to a peculiar, churning movement, by the alternate relaxation and contraction of the fibers which compose the muscular wall of the stomach. As soon as the food comes in contact with the stomach, its pinkish color changes to a bright red; and from the numerous tubes upon its inner surface is discharged a colorless fluid, called the *gastric juice*, which mingles with the food and dissolves it. When the food is reduced to a liquid condition, it accumulates in the pyloric portion of the stomach. Some distinguished physiologists believe that the food is kept in a gentle, unceasing, but peculiar motion, called *peristaltic*, since the stomach contracts in successive circles. In the stomach the food is arranged in a methodical manner. The undigested portion is detained in the upper, or cardiac extremity, near the entrance of the esophagus, by contraction of the circular fibers of the muscular coat. Here it is gradually dissolved, and then carried into the pyloric portion of the stomach. From this, then, it appears, that the dissolved and undissolved portions of food occupy different parts of the stomach. After the food has been dissolved by the gastric fluid, it is converted into a homogeneous, semi-fluid mass, called *chyme*. This substance passes from the stomach through the pyloric orifice into the duodenum, in which, by mixing with the bile and pancreatic fluid, its chemical properties are again modified, and it is then termed *chyle*, which has been found to be composed of three distinct parts, a reddish-brown sediment at the bottom, a whey-colored fluid in the middle, and a creamy film at the top. Chyle is different from chyme in two respects: First, the alkali of the digestive fluids, poured into the duodenum, or upper part of the small intestine, neutralizes the acid of the chyme; secondly, both the bile and the pancreatic fluid seem to exert an influence over the fatty substances contained in the chyme, which assists the subdivision of these fats into minute particles. While the chyle is propelled along the small intestine by the peristaltic action, the matter which it contains in solution is

absorbed in the usual manner into the vessels of the villi by the process called *osmosis*. The fatty matters being subdivided into very minute particles, but not dissolved, and consequently incapable of being thus absorbed by osmosis, pass bodily through the epithelial lining of the intestine into the commencement of the lacteal tubes in the villi. The digested substances, as they are thrust along the small intestines, gradually lose their albuminoid, fatty, and soluble starchy and saccharine matters, and pass through the ileo-cæcal valve into the cæcum and large intestine. An acid reaction takes place here, and they acquire the usual fæcal smell and color, which increases as they approach the rectum. Some physiologists have supposed that a second digestion takes place in the upper portion of the large intestine. The lacteals, filled with chyle, pass into the mesenteric glands with which they freely unite, and afterward enter the *receptaculum chyli*, which is the commencement of the thoracic duct, a tube of the size of a goose-quill, which lies in front of the backbone. The lymphatics, the function of which is to secrete and elaborate lymph, also terminate in the *receptaculum chyli*, or receptacle for the chyle. From this reservoir the chyle and lymph flow into the thoracic duct, through which they are conveyed to the left subclavian vein, there to be mingled with venous blood. The blood, chyle, and lymph, are then transmitted directly to the lungs.

The process of nutrition aids in the development and growth of the body; hence it has been aptly designated a "perpetual reproduction." It is the process by which every part of the body assimilates portions of the blood distributed to it. In return, the tissues yield a portion of the material which was once a component part of their organization. The body is constantly undergoing waste as well as repair. One of the most interesting facts in regard to the process of nutrition in animals and plants is, that all tissues originate in cells. In the higher types of animals, the blood is the source from which the cells derive their constituents. Although the alimentary canal is more or less complicated in different classes of animals, yet there is no species, however low in the scale of organization, which does not possess it in some

form.* The little polyp has only one digestive cavity, which is a pouch in the interior of the body. In some animals circulation is not distinct from digestion, in others respiration and digestion are performed by the same organs; but as we rise in the scale of animal life, digestion and circulation are accomplished in separate cavities, and the functions or nutrition become more complex and distinct.

* The males of *Cryptophialus* and *Alcippe*, species of marine animals, are apparent exceptions to this rule. They are parasitic, possess neither mouth, stomach, thorax, nor abdomen, and are, necessarily, short-lived.

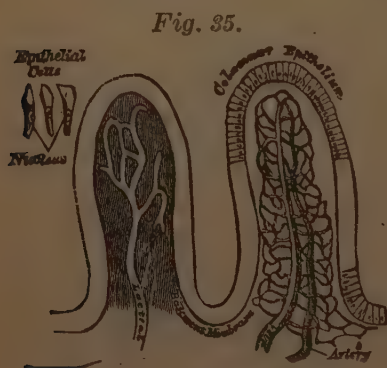
CHAPTER V.

PHYSIOLOGICAL ANATOMY.

ABSORPTION.

Absorption is the vital function by which nutritive materials are selected and imbibed for the sustenance of the body. Absorption, like all other functional processes, employs agents to effect its purposes, and the *villi* of the small intestine, with

their numberless projecting organs, are specially employed to imbibe fluid substances; this they do with a celerity commensurate to the importance and extent of their duties. They are little vascular prominences of the mucous membrane, arising from the interior surface of the small intestine. Each villus has two sets of vessels. (1.) The blood-vessels, which, by their frequent blending, form a complete net-work



Villi of the small intestine greatly magnified.

beneath the external epithelium; they unite at the base of the villus, forming a minute vein, which is one of the sources of the portal vein. (2.) In the center of the villus is another vessel, with thinner and more transparent walls, which is the commencement of a lacteal.

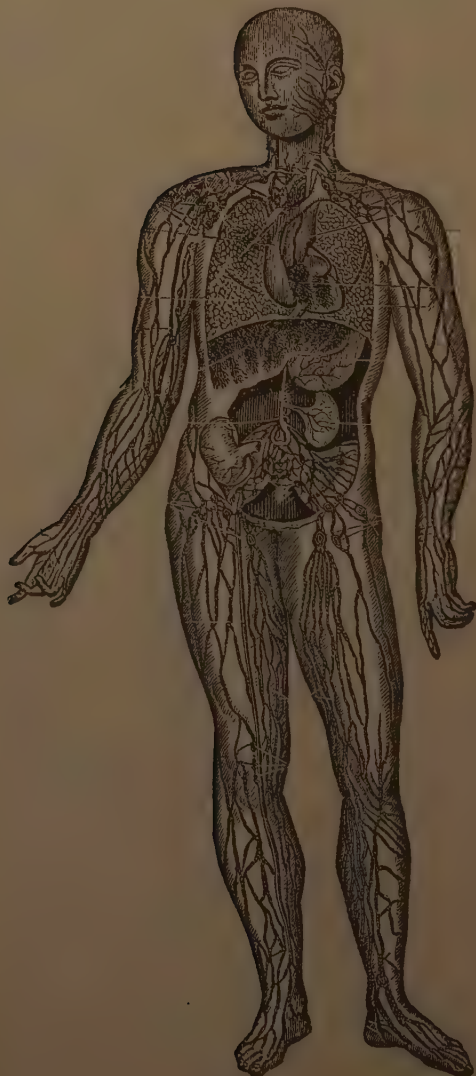
The *Lacteals* originate in the walls of the alimentary canal,

are very numerous in the small intestine, and, passing between the laminae of the mesentery, they terminate in the *receptaculum chyli*, or reservoir for the chyle. The mesentery consists of a double layer of cellular and adipose tissue. It incloses the blood-vessels, lacteals, and nerves of the small intestine, together with its accessory glands. It is joined to the posterior abdominal wall by a narrow *root*; anteriorly, it is attached to the whole length of the small intestine. The lacteals are known as the absorbents of the intestinal walls, and after digestion is accomplished, are found to contain a white, milky fluid, called *chyle*. The chyle does not represent the entire product of digestion, but only the fatty substances suspended in a serous fluid.

Formerly, it was supposed that the lacteals were the only agents employed in absorption, but more recent investigations have shown that the blood-vessels participate equally in the process, and are frequently the more active and important of the two. Experiments upon living animals have proved that absorption of poisonous substances occurs, even when all communication by way of the lacteals and lymphatics is obstructed, the passage by the blood-vessels alone remaining. The absorbent power which the blood-vessels of the alimentary canal possess, is not limited to alimentary substances, but through them, soluble matters of almost every description are received into the circulation.

The *Lymphatics* are not less important organs in the process of absorption. Nearly every part of the body is permeated by a second series of capillaries, closely interlaced with the blood-vessels, collectively termed the *Lymphatic System*. Their origin is not known, but they appear to form a *plexus* in the tissues, from which their converging trunks arise. They are composed of minute tubes of delicate membrane, and from their net-work arrangement they successively unite and finally terminate in two main trunks, called the *great lymphatic veins*. The lymphatics, instead of commencing on the intestinal walls, as do the lacteals, are distributed through most of the vascular tissues as well as the skin. The lymphatic circulation is not unlike that of the blood; its circulatory apparatus is, however, more delicate, and its functions are not so well understood.

The *lymph* which circulates through the lymphatic vessels is an alkaline fluid composed of a plasma and corpuscles. It

Fig. 36.

A general view of the Lymphatic System.

may be considered as blood deprived of its red corpuscles and diluted with water. Nothing very definite is known respecting the functions of this fluid. A large proportion of its constituents is derived from the blood, and the exact connection of these substances to nutrition is not properly understood. Some excrementitious matters are supposed to be taken from the tissues by the lymph and discharged into the blood, to be ultimately removed from the system. The lymph accordingly exerts an important function by removing a portion of the decayed tissues from the body.

In all animals which possess a lacteal system there is also a lymphatic system, the one being the complement of the other. The fact that lymph and chyle are both conveyed into the general current of circulation, leads to the inference that the lymph, as well as the chyle, aids in the process of nutrition. The body is continually undergoing change, and vital action implies waste of tissues, as well as their growth. Those organs which are the instruments of motion, as the muscles, cannot be employed without wear and waste of their component parts. Renovated tissues must replace those which are worn out, and it is a part of the function of the absorbents to convey nutritive material into the general circulation. Researches in microscopical anatomy have shown that the skin contains multitudes of lymphatic vessels and that it is a powerful absorbent.

Absorption is one of the earliest and most essential functions of animal and vegetable tissues. The simpler plants consist of only a few cells, all of which are employed in absorption; but in the flowering plants this function is performed by the roots. It is accomplished on the same general principles in animals, yet it presents more modifications and a greater number of

Fig. 37.



1. A representation of a lymphatic vessel highly magnified. 2. Lymphatic valves. 3. A lymphatic gland and its vessels.

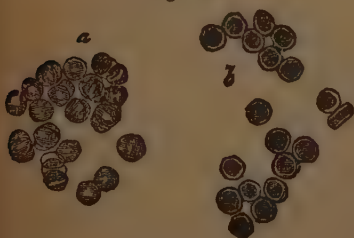
organs than in vegetables. While animals receive their food into a sac, or bag called the *stomach*, and are provided with absorbent vessels such as nowhere exist in vegetables, plants plunge their absorbent organs into the earth, whence they derive nourishing substances. In the lower order of animals, as in sponges, this function is performed by contiguous cells, in a manner almost as elementary as in plants. In none of the invertebrate animals is there any *special* absorbent system. Internal absorption is classified by some authors as follows: *interstitial*, *recrementitial*, and *excrementitial*; by others as *accidental*, *venous*, and *cutaneous*. The general cutaneous and mucous surfaces exhale, as well as absorb; thus the skin, by means of its sudoriferous glands, exhales moisture, and is at the same time as before stated, a powerful absorbent. The mucous surface of the lungs is continually throwing off carbonic acid and absorbing oxygen; and through their surface poisons are sometimes taken into the blood. The continual wear and waste to which living tissues are subject, makes necessary the provision of such a system of vessels for conveying away the worn-out materials and supplying the body with new.

CHAPTER VI.

PHYSICAL AND VITAL PROPERTIES OF THE BLOOD.

Blood is the animal fluid by which the tissues of the body are nourished. This pre-eminently vital fluid permeates every organ, distributes nutritive material to every texture, is essentially modified by respiration, and, finally, is the source of every secretion and excretion. Blood has four constituents: Fibrin, Albumen, Salts (which elements, in solution, form the *liquor sanguinis*), and the Corpuscles. Microscopical examination shows that the corpuscles are of two kinds, known as the *red* and the *white*; the former are by far the more abundant, there being six hundred and sixty-six red cells to one of white to the cubic millimeter of blood.

Fig. 38.



Red corpuscles of human blood, represented as *a*, as they are seen when rather *beyond* the focus of the microscope; and at *b*, as they appear when *within* the focus. Magnified 400 diameters.

They are circular in form and have a smooth exterior, and are on an average $\frac{1}{2500}$ part of an inch in diameter, and are about one-fourth of that in thickness. Hence more than ten millions of them may lie on a space an inch square. If spread out in thin layers and subjected to transmitted light, they present a slightly yellowish color, but when crowded together and viewed by refracted light, exhibit a deep red color.

These blood-corpuscles have been termed *discs*, and are not, as some have supposed, solid material, but are very nearly fluid. The red corpuscles although subjected to continual movement,

have a tendency to approach one another, and when their flattened surfaces come in contact, so firmly do they adhere that they change their shape rather than submit to a separation. If separated, however, they return to their usual form. The colorless corpuscles are larger than the red and differ from them in being extremely irregular in their shape, and in their tendency to adhere to a smooth surface, while the red corpuscles float about and tumble over one another. They are chiefly remarkable for their continual variation in form. The shape of the red corpuscles is only altered by external influ-

Fig. 39.



Development of human lymph and chyle-corpuscles into red corpuscles of blood. A. A lymph, or white blood-corpuscle. B. The same in process of conversion into a red corpuscle. C. A lymph-corpuscle with the cell-wall raised up around it by the action of water. D. A lymph-corpuscle, from which the granules have almost disappeared. E. A lymph-corpuscle, acquiring color; a single granule, like a nucleus, remains. F. A red corpuscle fully developed.

ences, but the white are constantly undergoing alterations, the result of changes taking place within their own substance. When diluted with water and placed under the microscope they are found to consist of a spheroidal sac, containing a clear or granular fluid and a spheroidal vesicle, which is termed the *nucleus*. They have been regarded by some physiologists as

identical with those of the lymph and chyle. Dr. Carpenter believes that the function of these cells is to convert albumen into fibrin, by the simple process of cell-growth. It is generally believed that the red corpuscles are derived in some way from the colorless. It is supposed that the red corpuscle is merely the nucleus of a colorless corpuscle enlarged, flattened, colored and liberated by the bursting of the wall of its cell. When blood is taken from an artery and allowed to remain at rest, it separates into two parts: a solid mass, called the *clot*, largely composed of fibrin; and a fluid known as the *serum*, in which the clot is suspended. This process is termed *coagulation*. The serum, mostly composed of *albumen*, is a

transparent, straw-colored fluid, having the odor and taste of blood. The whole quantity of blood in the body is estimated on an average to be about one-ninth of its entire weight. The distinctions between the arterial and venous blood are marked, since in the arterial system the blood is uniformly bright red, and in the venous of a very dark red color. The blood-corpuscles contain both oxygen and carbonic acid in solution. When carbonic acid predominates, the blood is dark red; when oxygen, scarlet. In the lungs, the corpuscles give up carbonic acid, and absorb a fresh supply of oxygen, while in the general circulation the oxygen disappears in the process of tissue transformation, and is replaced, in the venous blood, by carbonic acid. The nutritive portions of food are converted into a homogeneous fluid, which pervades every part of the body, is the basis of every tissue, and which is termed the *blood*. This varies in color and composition in different animals. In the polyp the nutritive fluid is known as *chyme*, in many mollusks, as well as articulates, it is called *chyle*, but in vertebrates, it is more highly organized and is called blood. In all the higher animal types it is of a red color, although redness is not one of its essential qualities. Some tribes of animals possess true blood, which is not red; thus the blood of the insect is colorless and transparent; that of the reptile yellowish; in the fish the principal part is without color, but the blood of the bird is deep red. The blood of the mammalia is of a bright scarlet hue. The temperature of the blood varies in different species, as well as in animals of the same species under different physiological conditions; for this reason, some animals are called *cold-blooded*. Disease also modifies the temperature of the blood; thus in fevers it is generally increased, but in cholera greatly diminished. The blood has been aptly termed the "vital fluid," since there is a constant flow from the heart to the tissues and organs of the body, and a continual return after it has circulated through these parts. Its presence in every part of the body is one of the essential conditions of animal life, and is effected by a special set of organs, called the *circulatory organs*.

CHAPTER VII.

PHYSIOLOGICAL ANATOMY.

CIRCULATORY ORGANS.

Having considered the formation of chyle, traced it through the digestive process, seen its transmission into the *vena cava*, and, finally, its conversion into blood, we shall now describe how it is distributed to every part of the system. This is accomplished through organs which, from the round of duties they perform, are called *circulatory*. These are the Heart, Arteries, Veins, and Capillaries, which constitute the *vascular system*.

Within the thorax or chest of the human body, and enclosed within a membranous sac, called the *pericardium*, is the great force-pump of the system, the heart. This organ, to which all the arteries and veins of the body may be either directly or indirectly traced, is roughly estimated to be equal in size to the closed fist of the individual to whom it belongs.

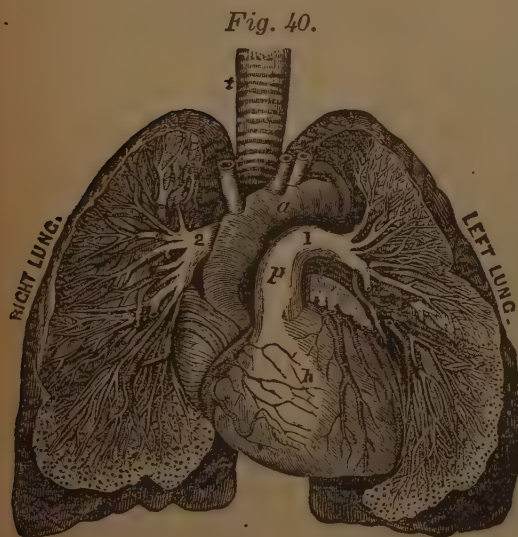
It has a broad end turned upwards, and a little to the right side, termed its *base*; and a pointed end called its *apex*, turned downwards, forwards, and to the left side, and lying between a point about an inch to the right of, and below, the left nipple, or just below the fifth rib. Attached to the rest of the body only by the great blood-vessels which issue from and enter it at its base, the heart is the most mobile organ in the human economy, being free to move in different directions.

The heart is divided into two great cavities by a fixed partition, which extends from the base to the apex of the organ, and which prevents any direct communication between them. Each of these great cavities is further subdivided transversely

by a movable partition, the cavity above each transverse partition being called the *auricle*, and the cavity below, the *ventricle*, right or left, as the case may be.

The walls of the auricles are much thinner than those of the ventricles, and the wall of the right ventricle is much thinner than that of the left, from the fact that the ventricles have more work to perform than the auricles, and the left ventricle more than the right.

In structure, the heart is composed almost entirely of muscular fibers, which are arranged in a very complex and wonderful manner. The outer surface of the heart is covered with the pericardium, which closely adheres to the muscular substance.



General view of the Heart and Lungs.

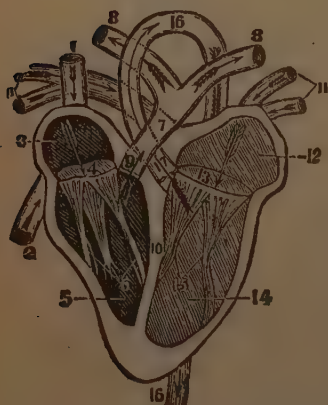
t. Trachea, or wind-pipe. a. Aorta. p. Pulmonary artery. 1, 2. Branches of the pulmonary artery, one going to the right, the other to the left lung. h. The heart.

Inside, the cavities are lined with a thin membrane, called the *endocardium*. At the junction between the auricles and ventricles, the apertures of communication between their cavities are strengthened by *fibrous rings*. Attached to these fibrous rings are the movable partitions or valves, between the auricles and the ventricles, the one on the right side of the heart being called the *tricuspid valve*, and the one on the left side the *mitral valve*. A number of fine, but strong, tendinous chords, called *chordæ tendineæ*, connect the edges and apices of these valves with column-like elevations of the fleshy substance of the walls of the ventricles, called *columnæ carneæ*.

The valves are so arranged that they present no obstacle

to the free flow of blood from the auricles into the ventricles, but if any is forced the other way, it gets between the valve and the wall of the heart, and drives the valve backwards and upwards, thus forming a transverse partition between the auricle and ventricle, through which no fluid can pass.

Fig. 41.



1. The descending vena cava.
2. The ascending vena cava. 3. The right auricle. 4. The opening between the right auricle and the right ventricle. 5. The right ventricle. 6. The tricuspid valves. 7. The pulmonary artery. 8, 8. The branches of the pulmonary artery which pass to the right and the left lung. 9. The semilunar valves of the pulmonary artery. 10. The septum between the two ventricles of the heart. 11, 11. The pulmonary veins. 12. The left auricle. 13. The opening between the left auricle and ventricle. 14. The left ventricle. 15. The mitral valves. 16, 16. The aorta. 17. The semilunar valves of the aorta.

At the base of the heart are given off two large arteries, one on the right side, which conveys the blood to the lungs, called the *pulmonary artery*, and one on the left side, which conveys the blood to the system in general, called the *aorta*. At the junction of each of these great vessels with its corresponding ventricle, is another valvular apparatus, consisting of three pouch-like valves, called the *semilunar valves*, from their resemblance, in shape, to a half-moon. Being placed on a level and meeting in the middle line, they entirely prevent the passage of any fluid which may be forced along the artery towards the heart, but, flapping back, they offer no obstruction to the free flow of blood from the ventricles into the arteries.

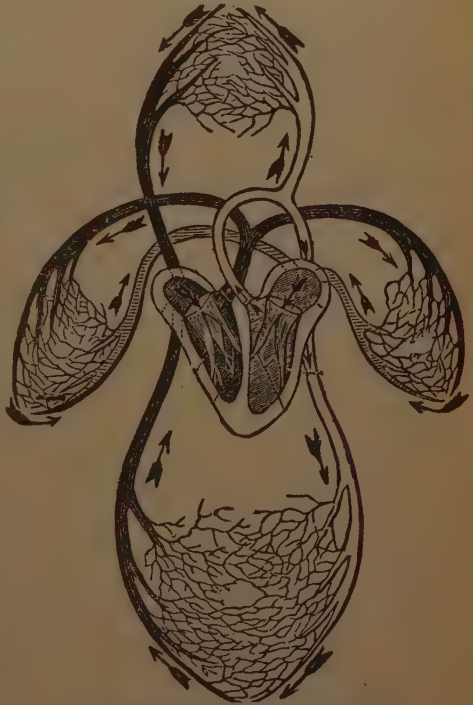
The *Arteries*, being always found empty after death, were supposed by the ancients, who were ignorant of the circulation of the blood, to be tubes containing air; hence their name, which is derived from a Greek word and signifies an *air-tube*. Arteries are the cylindrical tubes which carry blood to every part of the system. All the arteries, except the coronary which supply the substance of the heart, arise from the two main trunks, the pulmonary artery and the aorta. They are

of a yellowish-white color, and their inner surface is smooth. The arteries have three coats. (1.) The external coat, which is destitute of fat, and composed chiefly of cellular tissue, is very firm and elastic, and can readily be dissected from the middle coat. (2.) The middle, or fibrous coat, is thicker than the external, and composed of yellowish fibers, its chief property is contractility. (3.) The internal coat consists of a colorless, thin, transparent membrane, yet so strong that it can, it is thought, better resist a powerful pressure than either of the others. Arteries are very elastic as well as extensible, and their chief extensibility is in length. If an artery of a dead body be divided, although empty, its cylindrical form will be preserved.

The *Veins* are the vessels through which the venous blood returns to the auricles of the heart. They are more numerous than the arteries, and originate from numerous capillary tubes,

while the arteries are given off from main trunks. In some parts of the body, the veins correspond in number to the arteries; while in others, there are two veins to every artery. The veins commence by minute roots in the capillaries, which are everywhere distributed through the body, and gradually increase in size, until they unite and become large trunks,

Fig. 42.



A representation of venous and arterial circulation of the blood.

conveying the dark blood to the heart. The veins, like the arteries, have three coats. The external, or cellular coat, resembles that of the arteries; the middle is fibrous, but thinner than the corresponding one of the arteries; and the internal coat is serous, and analogous to that of those vessels. The veins belong to the three following classes: (1.) The systemic veins, which bring the blood from different parts of the body and discharge it into the vena cava, by means of which it is conveyed to the heart; (2), the pulmonary veins, which bring the arterial, or bright red blood from the lungs and carry it to the left auricle; (3), the veins of the portal system, which originate in the capillaries of the abdominal organs, then converge into trunks and enter the liver, to branch off again into divisions and subdivisions of the minutest character.

The *Capillaries* form an extremely fine net-work, and are distributed to every part of the body. They vary in diameter from $\frac{1}{3500}$ to $\frac{1}{2000}$ part of inch. They are so universally prevalent throughout the skin, that the puncture of a needle would wound a large number of them. These vessels receive the blood and bring it into intimate contact with the tissues, which take from it the principal part of its oxygen and other elements, and give up to it carbonic acid and the other waste products resulting from the transformation of the tissues, which are transmitted through the veins to the heart, and thence by the arteries to the lungs and various excretory organs.

The blood from the system in general, except the lungs, is poured into the right auricle by two large veins, called the superior and the inferior *vena cava*; and that returning from the lungs is poured into the left auricle by the *pulmonary veins*.

During life the heart contracts rhythmically, the contractions commencing at the base, in each auricle, and extending towards the apex.

Now it follows, from the anatomical arrangement of this organ, that when the auricles contract, the blood contained in them is forced through the auriculo-ventricular openings into the ventricles; the contractions then extending to the ventricles,

in a wave-like manner, the great proportion of the blood, being prevented from re-entering the auricles by the tricuspid and mitral valves, is forced onward into the pulmonary artery from the right ventricle, and into the aorta from the left ventricle.

When the contents of the ventricles are suddenly forced into these great blood-vessels, a shock is given to the entire mass of fluid which they contain, and this shock is speedily propagated along their branches, being known at the wrist as the *pulse*.

On inspection, between the fifth and sixth ribs on the left side of the chest, a movement is perceptible, and, if the hand be applied, the impulse may be felt. This is known as the throbbing, or beating of the heart.

If the ear is placed over the region of the heart, certain sounds are heard, which recur with great regularity. First is heard a comparatively long, dull sound, then a short, sharp sound, then a pause, and then the long, dull sound again. The first sound is caused mainly by the tricuspid and mitral valves, and the second is the result of sudden closure of the semilunar valves.

No language can adequately describe the beauty of the circulatory system. The constant vital flow through the larger vessels, and the incessant activity of those so minute that they are almost imperceptible, fully illustrate the perfectness of the mechanism of the human body, and the wisdom and goodness of Him who is its author.

Experiments have shown that the small arteries may be directly influenced through the nervous system, which regulates their caliber by controlling the state of contraction of their muscular walls. The effect of this influence of the nervous system enables it to control the circulation over certain areas; and, notwithstanding the force of the heart and the state of the blood-vessels in general, to materially modify the circulation in different spots. Blushing, which is simply a local modification of the circulation, is effected in this way. Some emotion takes possession of the mind, and the action of the nerves, which ordinarily keeps up a moderate contraction of the muscular coats of the arteries, is lost, and the vessels relax

and become distended with arterial blood, which is a warm and bright red fluid; thereupon a burning sensation is felt, and the skin grows red, the degree of the blush depending upon the intensity of the emotion.

The pallor produced by fright and by extreme anxiety, is purely the result of a local modification of the circulation, brought about by an over-stimulation of the nerves which supply the small arteries, causing them to contract, and to thus cut off more or less completely the supply of blood.

CHAPTER VIII.

PHYSIOLOGICAL ANATOMY.

THE ORGANS OF RESPIRATION.

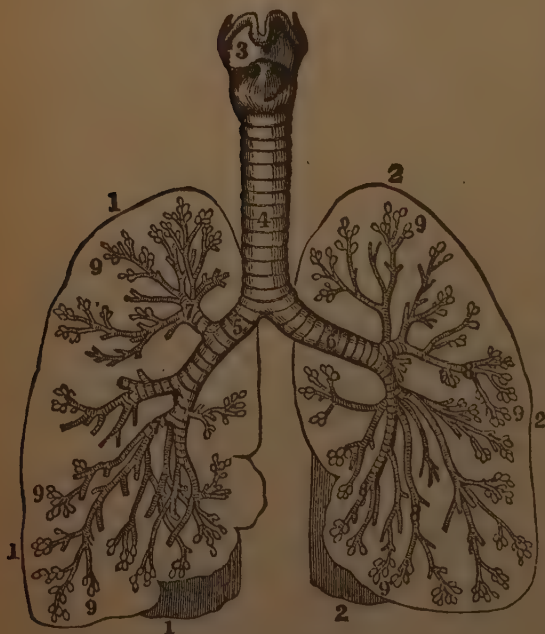
The Organs of Respiration are the Trachea, or windpipe, the Bronchia, formed by the subdivision of the trachea, and the Lungs, with their air-cells. The *Trachea* is a vertical tube situated between the lungs below, and a short quadrangular cavity above, called the *larynx*, which is part of the windpipe, and used for the purpose of modulating the voice in speaking or singing. In the adult, the trachea, in its unextended state, is from four and one-half to five inches in length, about one inch in diameter, and, like the larynx, is more fully developed in the male than in the female. It is a fibro-cartilaginous structure, and is composed of flattened rings, or segments of circles. It permits the free passage of air to and from the lungs.

The *Bronchia* are two tubes, or branches, one proceeding from the windpipe to each lung. Upon entering the lungs, they divide and subdivide until, finally, they terminate in small cells, called the *bronchial or air-cells*, which are of a membranous character.

The *Lungs* are irregular conical organs rounded at the apex, situated within the chest, and filling the greater part of it, since the heart is the only other organ which occupies much space in the thoracic cavity. The lungs are convex externally, and conform to the cavity of the chest, while the internal surface is concave for the accommodation of the heart. The size of the lungs depends upon the capacity of the chest. Their

color varies, being of a pinkish hue in childhood, but of a gray, mottled appearance in the adult. They are termed the *right* and *left* lung. Each lung resembles a cone with its base resting upon the diaphragm, and its apex behind the collar-bone. The right lung is larger though shorter, than the left,

Fig. 43.



An ideal representation of the Respiratory Organs.

3. The larynx. 4. The trachea. 5, 6. The bronchia.

9, 9, 9, 9. Air-cells. 1, 1, 2, 2, 2. Outlines of the lungs.

not extending so low, and has three lobes, formed by deep fissures, or longitudinal divisions, while the left has but two lobes. Each lobe is also made up of numerous lobules, or small lobes, connected by cellular tissue, and these contain great numbers of cells. The lungs are abundantly supplied with blood-vessels, lymphatics, and nerves. The density of a lung depends upon the

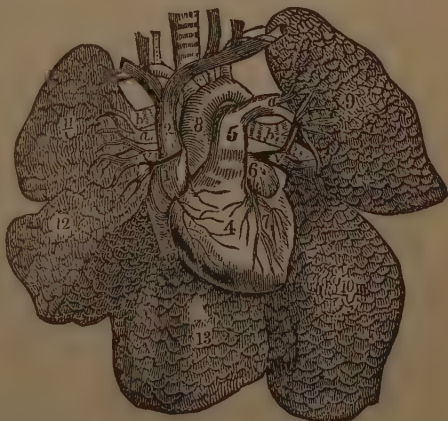
amount of air which it contains. Thus, experiment has shown that in a *fœtus* which has never breathed, the lungs are compact and will sink in water; but as soon as they become inflated with air, they spread over a larger surface, and are therefore more buoyant. Each lung is invested, as far as its root, with a membrane, called the *pleura*, which is then continuously extended to the cavity of the chest, thus performing the double office of lining it, and constituting a partition

between the lungs. The part of the membrane which forms this partition is termed the *mediastinum*. Inflammation of this membrane is called *pleurisy*. The lungs are held in position by the root, which is formed by the pulmonary arteries, veins, nerves, and the bronchial tubes. Respiration is the function by which the venous blood, conveyed to the lungs by the pulmonary artery, is converted into arterial blood. This is effected by the elimination of carbonic acid, which is expired or exhaled from the lungs, and by the absorption of oxygen from the air which is taken into the lungs, by the act of inspiration or inhalation. The act of expiration is performed chiefly by the elevation of the diaphragm and the descent of the ribs, and inspiration is principally effected by the descent of the diaphragm and the elevation of the ribs.

When the muscles of some portions of the air-passages are relaxed, a peculiar vibration follows, known as snoring. Coughing and sneezing are sudden and spasmodic expiratory efforts, and generally involuntary. Sighing is a prolonged deep inspiration, followed by a rapid, and generally audible expiration. It is remarkable that laughing and sobbing, although indicating opposite states of the mind, are produced in very nearly the same manner. In hiccough, the contraction is more sudden and spasmodic than in laughing or sobbing. The quantity of oxygen consumed during sleep is estimated to be considerably less than that consumed during wakefulness.

It is difficult to estimate the amount of air taken into the

Fig. 44.

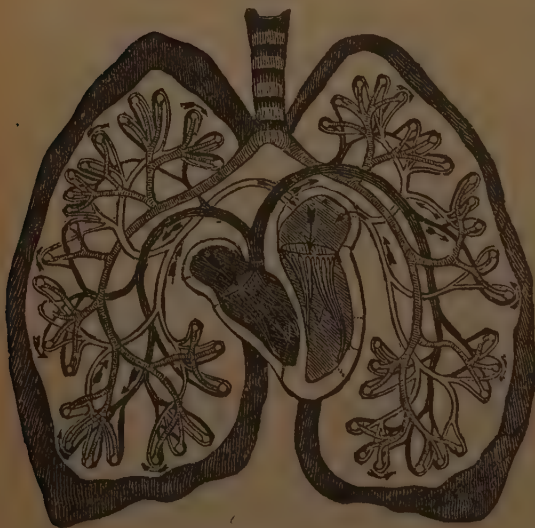


A Representation of the Heart and Lungs.

- 4. The heart. 5. The pulmonary artery.
- 8. Aorta. 9, 11. Upper lobes of the lungs.
- 10, 12. Lower lobes. 12. Middle lobe of the right lung.
- 2. Superior vena cava.
- 3. Inferior vena cava.

lungs at each inspiration, as the quantity varies according to the condition, size, and expansibility of the chest, but in ordinary breathing it is supposed to be from twenty to thirty cubic inches. The consumption of oxygen is greater when the temperature is low, and during digestion. All the respiratory movements, so far as they are independent of the will of the individual, are controlled by that part of the brain called the *medulla oblongata*. The respiratory, or breathing process, is not instituted for the benefit of man alone, for

Fig. 45.



View of the Pulmonary Circulation.

we find it both in the lower order of animals and in plant life. Nature is very economical in the arrangement of her plans, since the carbonic acid, which is useless to man, is indispensable to the existence of plants, and the oxygen, rejected by them, is appropriated to his use. In the lower order of animals, the

respiratory act is similar to that of the higher types, though not so complex; for there are no organs of respiration, as the lungs and gills are called. Thus, the higher the animal type, the more complex its organism. The effect of air upon the color of the blood is very noticeable. If a quantity be drawn from the body, thus being brought into contact with the air, its color gradually changes to a brighter hue. There is a marked difference between the properties of the venous and the arterial blood.

The venous blood is carried, as we have previously

described, to the right side of the heart and to the lungs, where it is converted into arterial blood. It is now of uniform quality, ready to be distributed throughout the body, and capable of sustaining life and nourishing the tissues. Man breathes by means of lungs; but who can understand their wonderful mechanism, so perfect in all its parts? Though every organ is subservient to another, yet each has its own office to perform. The minute air-cells are for the aeration of the blood; the larger bronchial tubes ramify the lungs, and suffuse them with air; the trachea serves as a passage for the air to and from the lungs, while at its upper extremity is the larynx, which has been fitly called the organ of the human voice. At its extremity we find a sort of shield, called the *epiglottis*, the office of which is supposed to be to prevent the intrusion of foreign bodies.

CHAPTER IX.

PHYSIOLOGICAL ANATOMY.

THE SKIN.

Through digestion and respiration, the blood is continually supplied with material for its renewal; and, while the nutritive constituents of the food are retained to promote the

Fig. 46.



An Ideal View of the Papillae.

- 1, 1. Cutis vera. 2, 2. Papillary layer.
3, 3. Arteries of the papillae. 4, 4. Nerves of
the papillae. 5, 5. Veins of the papillae.

growth of the body, those which are useless or injurious are in various ways expelled. There are, perhaps, few parts of the body more actively concerned in this removal than the skin.

The skin is a membranous envelope covering the entire body. It consists of two layers, termed the *Cutis Vera*, or true skin, and the *Epidermis*, or cuticle. The *Cutis Vera* is composed of fibers similar to those of the cellular tissue. It consists of white and yellow fibers, which are more densely woven near the surface than deeper in the structure; the white

sists of white and yellow fibers, which are more densely woven near the surface than deeper in the structure; the white

give strength, the yellow strength and elasticity combined. The true skin may be divided into two layers, differing in their characteristics, and termed respectively the superficial or papillary layer, and the deep or fibrous layer. Upon the external surface, are little conical prominences, known as *papillæ*. The papillæ are irregularly distributed over the body, in some parts being smaller and more numerous than in others, as on the finger-ends, where their summits are so intimately connected as to form a tolerably smooth surface. It is owing to their perfect development,

that the finger-tips are adapted to receive the most delicate impressions of touch. Although every part of the skin is sensitive, yet the papillæ are extremely so, for they are the principal means through which the impressions of objects are communicated. Each papillæ not only contains a minute vein and artery, but it also incloses a loop of sensitive nerves. When the body is exposed to cold, these

papillæ can be more distinctly seen in the form of prominences, commonly known as "goose-pimples."

The internal, or fibrous layer of the skin, contains numerous depressions, each of which furnishes a receptacle for fat. While the skin is supplied with a complete 'net-work' of arteries, veins, and nerves, which make it sensitive to the slightest touch, it also contains numerous lymphatic vessels, so minute that they are invisible to the naked eye.

Among the agents adapted for expelling the excretions from the system, few surpass the *Sudoriferous Glands*. These are minute organs which wind in and out over the whole extent of the true skin, and secrete the perspiration. Though much of it passes off as insensible transpiration, yet it often

Fig. 47.



A section of the skin, showing its arteries and veins. A, A. Arterial branches. B, B. Capillaries in which the branches terminate. C. The venous trunk into which the blood from the capillaries flows.

accumulates in drops of sweat, during long-continued exercise or exposure to a high temperature. The office of the perspiration is two-fold. It removes

Fig. 48.



A perspiratory gland, highly magnified. 1, 1. The gland. 2, 2. Excretory ducts uniting to form a tube which tortuously perforates the cuticle at 3, and opens obliquely on its surface at 4.

noxious matter from the system, and diminishes animal heat, and thereby equalizes the temperature of the body. It also renders the skin soft and pliable, thus better adapting it to the movements of the muscles. The *Sebaceous Glands*, which are placed in the true skin, are less abundant where the sudoriferous glands are most numerous, and *vice versa*. Here, as elsewhere, nature acts with systematic and intelligent design. The perspiratory glands are distributed where they are most needed,—in the eyelids, serving as lubricators; in the ear passages, to produce the *cerumen*, or wax, which prevents the intrusion of small insects; and in the scalp, to supply the hair with its natural pomatum.

The *Epidermis*, or *Cuticle*, so called because it is placed upon the skin, is the outer layer of the skin. Since it is entirely destitute of nerves and blood-vessels, it is not sensitive. Like the cutis vera, it has two surfaces composed of layers. The internal, or *Rete Mucosum*, which is made up chiefly of pigment cells, is adapted to the irregularities of the cutis vera, and sends prolongations into all its glandular follicles. The external surface, or epidermis proper, is elastic, destitute of coloring matter, and consists of mere

horny scales. As soon as dry, they are removed in the form of scurf, and replaced by new ones from the cutis vera.

These scales may be removed by a wet-sheet pack, or by friction. The cuticle is constantly undergoing renewal. This

Fig. 49.



A representation of oil-tubes from the Scalp and Nose.

layer serves to cover and protect the nervous tissue of the true skin beneath. We may here observe that the cuticle contains the pigment for coloring the skin. In dark races, as the negro, the cuticle is very thick and filled with black pigment. The radiation of animal heat is dependent upon the thickness and color of this

cuticle. Thus, in the dark races, the pigment cells are most numerous, and in proportion as the skin is dark or fair do we

find these cells in greater or lesser abundance. The skin of the Albino is of pearly whiteness, devoid even of the pink or brown tint which that of the European always possesses. This peculiarity must be attributed to the absence of pigment cells, which, when present, always present a more or less dark color. The theory that *climate* alone

is capable of producing all these diversities is simply absurd. The Esquimaux, who live in Greenland and the arctic regions

Fig. 50.

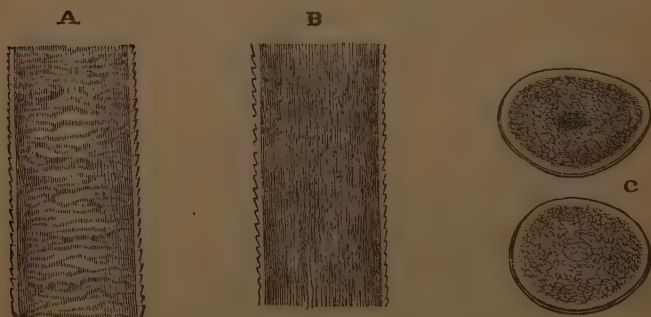


Anatomy of the Skin. 5, 5. Cutis vera (true skin). 4, 4. Nervous tissue. 3, 3. Sensitive layer in which are seen the nerves. 2, 2. The layer containing pigment cells. 1, 1. Epidermis (cuticle).

of America, are remarkable for the darkness of their complexion. Humboldt remarks that the American tribes of the tropical regions have no darker skin than the mountaineers of the temperate zone. Climate may *modify* the complexion, but it cannot *make* it.

Hairs are horny appendages of the skin, and, with the exception of the hands, the soles of the feet, the backs of the

Fig. 51.



Structure of the Human Hair.

A. External surface of the shaft, showing the transverse striæ and jagged boundary, caused by the imbrications of the scaly cortex. **B.** Longitudinal section of the shaft, showing the fibrous character of the medullary substance, and the arrangement of the pigmentary matter. **C.** Transverse sections, showing the distinction between the cortical and medullary substances, and the central collection of pigmentary matter, sometimes found in the latter. Magnified 310 diameters.

fingers and toes, between the last joint and the nail, and the upper eyelids, are distributed more or less abundantly over every part of the surface of the body. Over the greater part of the surface the hairs are very minute, and in some places are not actually apparent above the level of the skin; but the hair of the head, when permitted to reach its full growth, attains a length of from twenty inches to a yard, and, in rare instances, even six feet. A hair may be divided into a middle portion, or *shaft*, and two extremities; a peripheral extremity, called the *point*; and a central extremity, inclosed within the hair-sac, or follicle, termed the *root*. The root is some-

what greater in diameter than the shaft, and cylindrical in form, while its lower part expands into an oval mass, called the *bulb*. The shaft of the hair is not often perfectly cylindrical, but is more or less flattened, which circumstance gives rise to waving and curling hair; and, when the flattening is spiral in direction, the curling will be very great. A hair is composed of three different layers of cell-tissues: a loose, cellulated substance, which occupies its center, and constitutes the *medulla*, or pith; the fibrous tissue, which incloses the medulla, and forms the chief bulk of the hair; and a thin layer, which envelops this fibrous structure, and forms the smooth surface of the hair. The medulla is absent in the downy hairs, but in the coarser class it is always present, especially in white hair. The color of hair is due partly to the granules and partly to an intergranular substance, which occupies the interstices of the granules and the fibers. The quantity of hair varies according to the proximity and condition of the follicles. The average number of hairs of the head may be stated at 1,000 in a superficial square inch; and, as the surface of the scalp has an area of about one hundred and twenty superficial square inches, the average number of hairs on the entire head is 120,000. The hair possesses great durability, as is evinced by its endurance of chemical processes, and by its discovery in the tombs of mummies more than two thousand years old. The hair is remarkable for its elasticity and strength. Hair is found to differ materially from horn in its chemical composition. According to Vauquelin, its constituents are animal matter, a greenish-black oil, a white, concrete oil, phosphate of lime, a trace of carbonate of lime, oxide of manganese, iron, sulphur, and silex. Red hair contains a reddish oil, a large proportion of sulphur, and a small quantity of iron. White hair contains a white oil, and phosphate of magnesia. It has been supposed that hair grows after death, but this theory was probably due to the lengthening of the hair by the absorption of moisture from the body or atmosphere.

The *nails* constitute another class of appendages of the

skin. They consist of thin plates of horny tissue, having a root, a body, and a free extremity. The root, as well as the lateral portion, is implanted in the skin, and has a thin margin which is received into a groove of the true skin. The under surface is furrowed, while the upper is comparatively smooth. The nails grow in the same manner as the cuticle.

CHAPTER X.

PHYSIOLOGICAL ANATOMY.

SECRETION.

The term *Secretion*, in its broadest sense, is applied to that process by which substances are separated from the blood, either for the reparation of the tissues or for excretion. In the animal kingdom this process is less complicated than in vegetables. In the former it is really a *separation* of nutritive material from the blood. The process, when effected for the removal of effete matter, is, in a measure, chemical, and accordingly the change is greater.

Three elementary constituents are observed in secretory organs: the cells, a basement membrane, and the blood-vessels. Obviously, the most *essential* part is the *cell*.

The physical condition necessary for the healthy action of the secretory organs is a copious supply of blood, in which the nutritive materials are abundant. The nervous system also influences the process of secretion to a great extent. Intense emotion will produce tears, and the sight of some favorite fruit will generally increase the flow of saliva.

The process of secretion depends upon the anatomical and chemical constitution of the cell-tissues. The principal secretions are (1), Perspiration; (2), Tears; (3), Sebaceous matter; (4), Mucus; (5), Saliva; (6), Gastric juice; (7), Intestinal juice; (8), Pancreatic juice; (9), Bile; (10), Milk.

Perspiration is a watery fluid secreted in minute glands, which are situated in every part of the skin, but are more numerous on the anterior surfaces of the body. Long thread-like tubes, only $\frac{1}{100}$ of an inch in diameter, lined with

epithelium, penetrate the skin, and terminate in rounded coils, enveloped by a net-work of capillaries, which supply the secretory glands with blood. It is estimated by Krause that the entire number of perspiratory glands is two million three hundred and eighty-one thousand two hundred and forty-eight, and the length of each glandular coil being $\frac{1}{16}$ of an inch, we may estimate the length of tubing to be not less than two miles and a third. This secretion has a specific gravity of 1003.5, and, according to Dr. Dalton, is composed of

Water,	995.50
Chloride of Sodium,	2.23
Chloride of Potassium,	0.24
Sulphate of Soda and Potassa,	0.01
Salts of Organic Acids, with Soda and Potassa, .	2.02
	<hr/>
	1000.00

Traces of organic matter, mingled with a free volatile acid, are also found in the perspiration. It is the acid which imparts to this secretion its peculiar odor, and acid reaction. The process of its secretion is continuous, but, like all bodily functions, it is subject to influences which augment or retard its activity. If, as is usually the case when the body is in a state of repose, evaporation prevents its appearance in the *liquid* form, it is called *invisible* or *insensible perspiration*. When there is unusual muscular activity, it collects upon the skin, and is known as *sensible perspiration*. This secretion performs an important office in the animal economy, by maintaining the internal temperature at about 100° Fahr. Even in the Arctic regions, where the explorer has to adapt himself to a temperature of 40° to 80° below zero, the generation of heat in the body prevents the internal temperature from falling below this standard. On the contrary, if the circulation is quickened by muscular exertion, the warmer blood flowing from the internal organs into the capillaries, raises the temperature of the skin, secretion is augmented, the moisture exudes from the pores, and perceptible evaporation begins. A large portion of the animal heat is thrown off in this process, and the temperature of the skin is reduced. A very warm, dry

atmosphere can be borne with impunity, but if moisture is introduced, evaporation ceases, and the life of the animal is endangered. Persons have been known to remain in a temperature of about 300° Fahr. for some minutes without unpleasant effects. Three conditions may be assigned as effective causes in retarding or augmenting this cutaneous secretion, variations in the temperature of the atmosphere, muscular activity, and influences which affect the nerves. The emotions exert a remarkable influence upon the action of the perspiratory glands. Intense fear causes great drops of perspiration to accumulate on the skin, while the salivary glands remain inactive.

Tears. The lachrymal glands are small lobular organs, situated at the outer and upper orbit of the eye, and have from six to eight ducts, which open upon the conjunctiva, between the eyelid and its inner fold. This secretion is an alkaline, watery fluid. According to Dr. Dalton, its composition is as follows:

Water,	982.0
Albuminous matter,	5.0
Chloride of Sodium,	13.0
Mineral Salts, a trace,	
	<hr/> 1000.0

The function of this secretion is to preserve the brilliancy of the eye. The tears are spread over this organ by the reflex movement of the eyelid, called winking, and then collected in the *puncta lachrymalia* and discharged into the nasal passage. This process is constant during life. The effect of its repression is seen in the dim appearance of the eye after death. Grief or excessive laughter usually excite these glands until there is an overflow.

Sebaceous Matter. Three varieties of this secretion are found in the body. A product of the sebaceous glands of the skin is found in those parts of the body which are covered with hairs; also on the face and the external surface of the organs of generation. The *sebaceous glands* consist of a group of flask-shaped cavities, opening into a common excretory duct.

Their secretion serves to lubricate the hair and soften the skin. The *ceruminous glands* of the *external auditory meatus*, or outer opening of the ear, are long tubes terminating in a glandular coil, within which is secreted the glutinous matter of the ear. This secretion serves the double purpose of moistening the outer surface of the *membrana tympani*, or ear-drum, and, by its strong odor, of preventing the intrusion of insects. The *Meibomian glands* are arranged in the form of clusters along the excretory duct, which opens just behind the roots of the eyelashes. The oily nature of this secretion prevents the tears, when not stimulated by emotion, from overflowing the lachrymal canal.

Mucus. The mucous membranes are provided with minute glands which secrete a viscid, gelatinous matter, called *mucus*. The peculiar animal matter which it contains is termed *mucosin*. These glands are most numerous in the Pharynx, Esophagus, Trachea, Bronchia, Vagina and Urethra. They consist of a group of secreting sacs, terminating at one extremity in a closed tube, while the other opens into a common duct. The mucus varies in composition in different parts of the body; but in all, it contains a small portion of insoluble animal matter. Its functions are threefold. It lubricates the membranes, prevents their injury, and facilitates the passage of food through the alimentary canal.

Saliva. This term is given to the first of the digestive fluids, which is secreted in the glands of the mouth. It is a viscid, alkaline liquid, with a specific gravity of about 1005. If allowed to stand, a whitish precipitate is formed. Examinations with the microscope show it to be composed of minute, granular cells and oil globules, mingled with numerous scales of epithelium. According to Bidder and Schmidt, the composition of saliva is as follows:

Water,	995.16
Organic matter,	1.34
Sulpho-cyanide of Potassium,	0.06
Phosphates of Sodium, Calcium and Magnesium, . . . . .	.98
Chlorides of Sodium and Potassium, . . . . .	.84
Mixture of Epithelium,	1.62
	<hr/>
	1000.00

Two kinds of organic matter are present in the saliva; one, termed *ptyalin*, imparts to the saliva its viscosity, and is obtained from the secretions of the parotid, submaxillary and sublingual glands; another, which is not glutinous, is distinguished by the property of coagulating when subjected to heat. The saliva is composed of four elementary secretions, derived respectively, from the mucous follicles of the mouth, and the parotid, the submaxillary, and the sublingual glands. The process of its secretion is constant, but is greatly augmented by the contact of food with the lining membrane. The saliva serves to moisten the triturated food, facilitate its passage, and has the property of converting starch into sugar; but the latter quality is counteracted by the action of the gastric juice of the stomach.

Gastric Juice. The minute tubes, or follicles, situated in the mucous membrane of the stomach, secrete a colorless, acid liquid, termed the gastric juice. This fluid appears to consist of little more than water, containing a few saline matters in solution, and a small quantity of free hydrochloric acid, which gives it an acid reaction. In addition to these, however, it contains a small quantity of a peculiar organic substance, termed *pepsin*, which in chemical composition, is very similar to ptyalin, although it is very different in its effects. When food is introduced into the stomach, the peristaltic contractions of that organ roll it about, and mingle it with the gastric juice, which disintegrates the connective tissue, and converts the albuminous portions into the substance called chyme, which is about the consistency of pea-soup, and which is readily absorbed through the animal membranes into the blood of the delicate and numerous vessels of the stomach, whence it is conveyed to the portal vein and to the liver. The secretion of the gastric juice is influenced by nervous conditions. Excess of joy or grief effectually retard or even arrest its flow.

Intestinal Juice. In the small intestine, a secretion is found which is termed the *intestinal juice*. It is the product of two classes of glands situated in the mucous membrane,

and termed respectively, the *follicles of Lieberkuhn* and the *glands of Brunner*. The former consist of numerous small tubes, lined with epithelium, which secrete by far the greater portion of this fluid. The latter are clusters of round follicles opening into a common excretory duct. These sacs are composed of delicate, membranous tissue, having numerous nuclei on their walls. The difficulty of obtaining this juice for experiment is obvious, and therefore its chemical composition and physical properties are not known. The intestinal juice resembles the secretion of the mucous follicles of the mouth, being colorless, vitreous in appearance, and having an alkaline reaction.

Pancreatic Juice. This is a colorless fluid, secreted in a lobular gland which is situated behind the stomach, and runs transversely from the spleen across the vertebral column to the duodenum. The most important constituent of the pancreatic juice is an organic substance, termed *pancreatin*.

The Bile. The blood which is collected by the veins of the stomach, pancreas, spleen, and intestines, is discharged into a large trunk called the portal vein, which enters the liver. This organ also receives arterial blood from a vessel called the *hepatic artery*, which is given off from the aorta below the diaphragm. If the branches of the portal vein and hepatic artery be traced into the substance of the liver, they will be found to accompany one another, and to subdivide, becoming smaller and smaller. Finally, the portal vein and hepatic artery will be found to terminate in capillaries which permeate the smallest perceptible subdivisions of the liver substance, which are polygonal masses of not more than one-tenth of an inch in diameter, called the *lobules*. Every lobule rests upon one of the ramifications of a great vessel termed the *hepatic vein*, which empties into the inferior vena cava. There is also a vessel termed the *hepatic duct* leading from the liver, the minute subdivisions of which penetrate every portion of the substance of that organ. Connected with the hepatic duct, is the duct of a large oval sac, called the *gall-bladder*.

Each lobule of the liver is composed of minute cellular bodies known as the *hepatic cells*. It is supposed that in these cells the blood is deprived of certain materials which are converted into bile. This secretion is a glutinous fluid, varying in color from a dark golden brown to a bright yellow, has a specific gravity ranging from 1018 to 1036, and a slightly alkaline reaction. When agitated, it has a frothy appearance. Physiologists have experienced much difficulty in studying the character of this secretion from the instability of its constituents when subjected to chemical examination.

Fig. 52.



Section of the Liver, showing the ramifications of the portal vein. 1. Twig of portal vein. 2, 2', 2'', 2''' Interlobular vein. 3, 3', 3''' Lobules.

Biliverdin is an organic substance peculiar to the bile, which imparts to that secretion its color. When this constituent is re-absorbed by the blood and circulates through the tissues, the skin assumes a bright yellow hue, causing what is known as the jaundice. *Cholesterin* is an inflammable crystallizable substance soluble in alcohol or ether. It is found in the spleen and all the nervous tissues. It is highly probable that it exists in the blood, in some state or combination, and assumes a crystalline form only when acted upon by other substances or elements. Two other consti-

tuents, more important than either of the above, are collectively termed *biliary salts*. These elements were discovered in 1848, by Strecker, who termed them *glycocholate* and *taurocholate of soda*. Both are crystalline, resinous substances, and, although resembling each other in many respects, the chemist may distinguish them by their reaction, for both yield a precipitate if treated with subacetate of lead, but only the glycocholate will give a precipitate with acetate of lead. In testing for biliary substances, the most satisfactory method is the one proposed by Pettenkoffer. A solution of cane-sugar, one part of sugar to four parts of water, is mixed with the suspected substance.

Dilute sulphuric acid is then added until a white precipitate falls, which is re-dissolved in an excess of the acid. On the addition of more sulphuric acid, it becomes opalescent, and passes through the successive hues of scarlet, lake, and a rich purple. Careful experiments have proved that it is a *constant* secretion; but its flow is more abundant during digestion. During the passage through the intestines it disappears. It is not eliminated, and Pettenkoffer's test has failed to detect its existence in the portal vein. These facts lead physiologists to the conclusion, that it undergoes some transformation in the intestines and is re-absorbed.

After digestion has been going on in the stomach for some time, the semi-digested food, in the form of chyme, begins to pass through the *pyloric orifice* of the stomach into the duodenum, or upper portion of the small intestine. Here it encounters the intestinal juice, pancreatic juice, and the bile, the secretion of all of which is stimulated by the presence of food in the alimentary tract. These fluids, mingling with the chyme, give it an alkaline reaction, and convert it into chyle. The transformation of starch into sugar, which is almost, if not entirely, suspended while the food remains in the stomach, owing to the acidity of the chyme, is resumed in the duodenum, the acid of the chyme, being neutralized by the alkaline secretions there encountered.

Late researches have demonstrated that the pancreatic juice exerts a powerful effect on albuminous matters, not unlike that of the gastric juice.

Thus, it seems that while in the mouth only starchy, and while in the stomach only albuminous substances are digested, in the small intestine all kinds of food materials, starchy, albuminoid, fatty and mineral, are either completely dissolved, or minutely subdivided, and so prepared that they may be readily absorbed through the animal membranes into the vessels.

Milk. The milk is a white, opaque fluid, secreted in the lacteal glands of the female, in the mammalia. These glands consist of numerous follicles, grouped around an excretory

duct, which unites with similar ducts coming from other lobules. By successive unions, they form large branches, termed the *lactiferous ducts*, which open by ten to fourteen minute orifices on the extremity of the nipple. The most important constituent of milk is *casein*; it also contains oily and saccharine substances. This secretion, more than any other, is influenced by nervous conditions. A mother's bosom will fill with milk at the thought of her infant child. Milk is sometimes poisoned by a fit of ill-temper, and the infant made sick and occasionally thrown into convulsions, which in some instances prove fatal. Sir Astley Cooper mentions two cases in which terror instantaneously and permanently arrested this secretion. It is also affected by the food and drink. Malt liquors and other mild alcoholic beverages temporarily increase the amount of the secretion, and may, in rare instances, have a beneficial effect upon the mother. They sometimes affect the child, however, and their use is not to be recommended unless the mother is extremely debilitated, and there is a deficiency of milk.

CHAPTER XI.

PHYSIOLOGICAL ANATOMY.

EXCRETION.

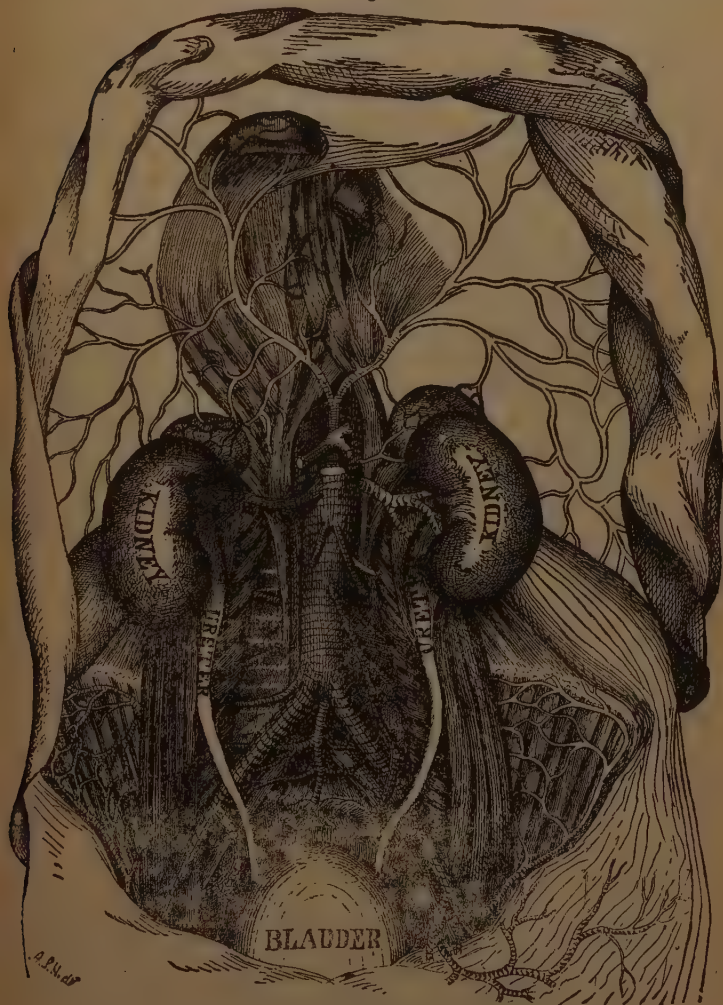
The products resulting from the waste of the tissues are constantly being poured in to the blood, and, as we have seen, the blood being everywhere full of corpuscles, which, like all living things, die and decay, the products of their decomposition accumulate in every part of the circulatory system. Hence, if the blood is to be kept pure, the waste materials incessantly poured into this fluid, or generated in it, must be as continually removed, or excreted. The principal sets of organs concerned in effecting the separation of excrementitious substances from the blood are the lungs, the skin, and the kidneys.

The elimination of carbonic acid through the lungs has already been described on page 66, and the excretory function of the skin on page 70.

The kidneys are two bean-shaped organs, placed at the back of the abdominal cavity, in the region of the loins, one on each side of the spine. The convex side of each kidney is directed outwards, and the concave side is turned inwards towards the spine. From the middle of the concave side, which is termed the *hilus*, a long tube of small caliber, called the *ureter*, proceeds to the bladder. The latter organ is an oval bag, situated in the pelvic cavity. It is composed principally of elastic muscular fibers, and is lined internally with mucous membrane, and coated externally with a layer of the *peritoneum*, the serous membrane which lines the abdominal

and pelvic cavities. The ureters enter the bladder through its posterior and lower wall, at some little distance from each

Fig 53.



View of the Kidneys, Ureters, and Bladder.

her. The openings through which the ureters enter the bladder are oblique, hence it is much easier for the secretion

of the kidneys to pass from the ureters into the bladder than for it to get the other way. Leading from the bladder to the exterior of the body is a tube, called the *urethra*, through which the urine is voided.

The excretion of the kidneys, termed the *urine*, is an amber-colored or straw-colored fluid, naturally having a slightly acid reaction, and a specific gravity ranging from 1,015 to 1,025. Its principal constituents are *urea* and *uric acid*, together with various other animal matters of less importance, and saline substances, held in solution in a proportionately large amount of water. The composition of the urine and the quantity excreted vary considerably, being influenced by the moisture and temperature of the atmosphere, by the character of the food consumed, and by the empty or replete condition of the alimentary tract. On an average a healthy man secretes about fifty ounces of urine in the twenty-four hours. This quantity usually holds in solution about one ounce of urea, and ten or twelve grains of uric acid. In the amount of other animal matters, and saline substances, there is great variation, the quantity of these ranging from a quarter of an ounce to an ounce. The principal saline substances are common salt, the sulphates and phosphates of potassium, sodium, calcium, and magnesium. In addition to the animal and the saline matters, the urine also contains a small quantity of carbonic acid, oxygen and nitrogen.

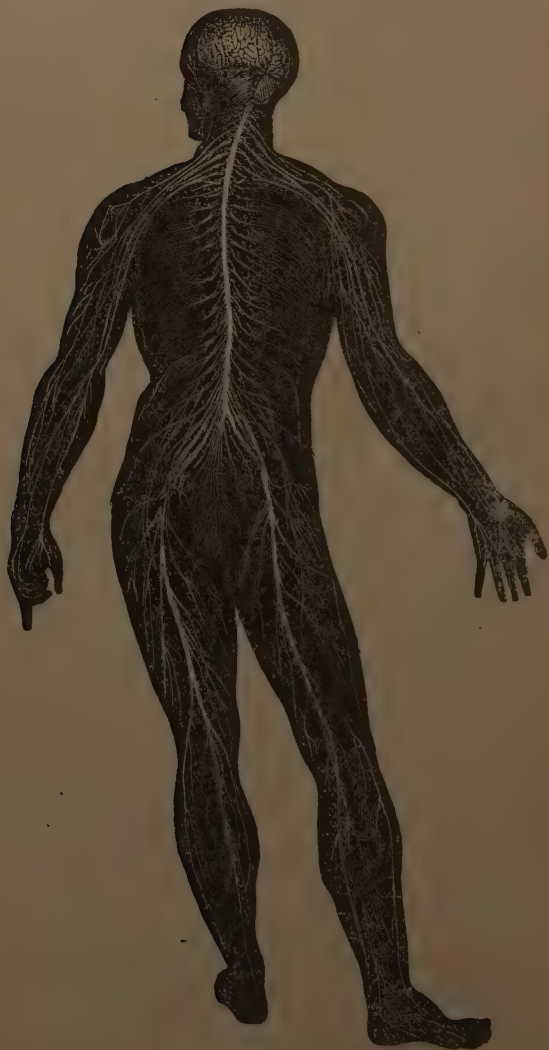
CHAPTER XII.

PHYSIOLOGICAL ANATOMY.

THE NERVOUS SYSTEM.

Hitherto, we have only considered the anatomy and functions of the organs employed in Digestion, Absorption, Circulation, Respiration, Secretion and Excretion. We have found the vital process of nutrition to be, in all its essential features, a result of physical and chemical forces; in each instance we have presupposed the existence and activity of the nerves. There is not an inch of bodily tissue into which their delicate filaments do not penetrate, and from a multitude of conductors, over which are sent the impulses of motion and sensation.

Two elements, *nerve-fibers* and *ganglionic corpuscles*, enter into the composition of nervous tissue. Ordinary nerve-fibers in the living subject, or when fresh, are cylindrical-shaped filaments of a clear, but somewhat oily appearance. But soon after death the matter contained in the fiber coagulates, and then the fiber is seen to consist of an extremely delicate, structureless, outer membrane, which forms a tube through the center of which runs the *axis-cylinder*. Interposed between the axis-cylinder and this tube, there is a fluid, containing a considerable quantity of fatty matter, from which is deposited a highly refracting substance which lines the tube. There are two sets of nerve-fibers, those which transmit sensory impulses, called *afferent* or *sensory* nerves, and those which transmit motor impulses, called *efferent* or *motor* nerves. The fibers when collected in bundles are termed nerve trunks. All the larger nerve-fibers lie side by side in the nerve-trunks, and are bound together by delicate

Fig. 54.

The Nervous System.

connective tissue, enclosed in a sheath of the same material, termed the *neurilemma*. The nerve-fibers in the trunks of the nerves remain perfectly distinct and disconnected from one another, and seldom, or never, divide throughout their entire length. However, where the nerves enter the nerve-centers, and near their outer terminations, the nerve-fibres often divide into branches, or at least gradually diminish in size, until, finally, the axis-cylinder, and the sheath with its fluid contents, are no longer distinguishable. The investing membrane is continuous from the origin to the termination of the nerve-trunk.

In the brain and spinal cord the nerve-fibers often terminate in minute masses of a gray or ash-colored granular substance, termed *ganglia* or *ganglionic corpuscles*.

The ganglia are cellular corpuscles of irregular form, and possess fibrous appendages, which serve to connect them with one another. These ganglia form the cortical covering of the brain, and are also found in the interior of the spinal cord. According to Kölliker, the larger of these nerve-cells measure only $\frac{1}{200}$ of an inch in diameter. The brain is chiefly composed of nervous ganglia.

Nerves are classified with reference to their origin, as *cerebral*—those originating in the brain, and *spinal*—those originating in the spinal cord.

There are two sets of nerves and nerve-centers, which are intimately connected, but which can be more conveniently studied apart. These are the *cerebro-spinal* system, consisting of the cerebro-spinal axis, and the cerebral and spinal nerves; and the *sympathetic* system, consisting of the chain of the sympathetic ganglia, the nerves which they give off, and the nervous trunks which connect them with one another and with the cerebro-spinal nerves.

THE CEREBRO-SPINAL SYSTEM.

The Cerebro-Spinal Axis consists of the brain and spinal cord. It lies in the cavities of the cranium and the spinal column. These cavities are lined with a very tough

Fig. 55.



Division of a nerve, showing a portion of a nervous trunk (a) and separation of its filaments (b, c, d, e.)

fibrous membrane, termed the *dura mater*, which serves as the periosteum of the bones which enter into the formation of these parts. The surface of the brain and spinal cord is closely invested with an extremely vascular, areolar tissue, called the *pia mater*. The numerous blood-vessels which supply these organs traverse the pia mater for some distance, and, where they pass into the substance of the brain or spinal cord, the fibrous tissue of this membrane accompanies them to a greater or less depth. The inner surface of the *dura mater* and the outer surface of the *pia mater* are covered with an extremely thin, serous membrane, which is termed the *arachnoid* membrane. Thus, one layer of the arachnoid envelopes the brain and spinal cord, and the other

lines the *dura mater*. As the layers become continuous with each other at different points, the arachnoid, like the pericardium, forms a shut sac, and, like other serous membranes, it secretes a fluid, known as the *arachnoid fluid*. The space between the internal and the external

Fig. 56.



Cross-section of Spinal Cord.

layers of the arachnoid membrane of the brain is much smaller than that enclosed by the corresponding layers of the arachnoid membrane of the spinal column.

The Spinal Cord is a column of soft, grayish-white substance, extending from the top of the spinal canal, where it is continuous with the brain, to about an inch below the small of the back, where it tapers off into a filament. From this nerve are distributed fibers and filaments to the muscles and integument of at least nine-tenths of the body.

The spinal cord is divided in front through the middle nearly as far as its center, by a deep fissure, called the *anterior fissure*, and behind, in a similar manner, by the *posterior fissure*. Each of these fissures is lined with the pia mater, which also supports the blood-vessels which supply the spinal cord with blood. Consequently, the substance of the two halves of the cord is only connected by a narrow

isthmus, or bridge, perforated by a minute tube, which is termed the *central canal* of the spinal cord.

Each half of the spinal cord is divided lengthwise into three nearly equal parts, which are termed the anterior, lateral, and posterior columns, by the lines which join together two parallel series of bundles of nervous filaments, which compose the roots of the spinal nerves. The roots of those nerves, which are found along that line nearest the posterior surface of the cord, are termed the posterior roots; those which spring from the other line are known as the anterior roots.

Several of these anterior and posterior roots, situated at about the same height on opposite sides of the spinal cord, converge and combine into what are called the *anterior* and *posterior bundles*; then two bundles, anterior and posterior, unite and form the trunk of a spinal nerve.

The nerve trunks make their way out of the spinal canal through apertures between the vertebra, called the *inter-vertebral foramina* and then divide into numerous branches, their ramifications extending principally to the muscles and the skin. There are thirty-one pairs of spinal nerves, eight of which are termed cervical, twelve dorsal, five lumbar, and six sacral, with reference to that part of the cord from which they originate.

When the cord is divided into transverse sections, it is found that each half is composed of two kinds of matter, a white substance on the outside, and a grayish substance in the interior. The *gray matter*, as it is termed lies in the form of an irregular crescent, with one end considerably larger than the other, and having the concave side turned outwards. The ends of the crescent are termed the *horns*, or *cornua*, the one pointing forward being called the *anterior cornu*, the other one the *posterior cornu*. The convex sides of these cornua approach each other and are united by the bridge, which contains the central canal.

There is a marked difference in the structure of the gray and the white matter. The white matter is composed entirely of nerve fibers, held together by a framework of connective tissue. The grey matter contains a great number of ganglionic corpuscles, or nerve-cells, in addition to the nerve-fibers.

When the nerve-trunks are irritated in any manner, whether by pinching, burning, or the application of electricity, all

the muscles which are supplied with branches from this nerve-trunk immediately contract, and pain is experienced, the severity of which depends upon the degree of the irritation; and the pain is attributed to that portion of the body to which the filaments of the nerve-trunk are distributed. Thus, persons who have lost limbs often complain in cold weather of an uneasiness or pain, which they locate in the fingers or toes of the limb which has been amputated, and which is caused by the cold producing an irritation of the nerve-trunk, the filaments, or fibers of which, supplied the fingers or toes of the lost member.

On the other hand, if the anterior bundle of nerve-fibers given off from the spinal cord is irritated in precisely the same way, only half of these effects is produced. All the muscles which are supplied with fibers from that trunk contract, but no pain is experienced. Conversely, if the posterior bundle of nerve-fibers is irritated, none of the muscles to which the filaments of the nerve are distributed contract, but pain is felt throughout the entire region to which these filaments are extended. It is evident, from these facts, that the fibers composing the posterior bundles of nerve-roots only transmit sensory impulses, and the filaments composing the anterior nerve-roots only transmit motor impulses; accordingly, they are termed respectively the *sensory* and the *motor* nerve-roots. This is illustrated by the fact that when the posterior root of a spinal nerve is divided, all sensation in the parts to which the filaments of that nerve are distributed is lost, but the power of voluntary movement of the muscles remains. On the other hand, if the anterior roots are severed, the power of voluntary motion of the muscles is lost, but sensation remains.

It appears from these experiments, that, when a nerve is irritated, a change in the arrangement of its molecules takes place, which is transmitted along the nerve-fibers. But, if the nerve-trunks are divided, or compressed tightly at any point between the portion irritated, and the muscle or nerve-centre, the effect ceases immediately, in a manner similar to that in which a message is stopped by the cutting of a telegraph wire. When the nerves distributed to a limb are subjected to a pressure sufficient to destroy the molecular continuity of their filaments, it "goes to sleep," as we term it. The power

of transmitting sensory and motor impulses is lost, and only returns gradually, as the molecular continuity is restored.

From what has been said, it is plain that a sensory nerve is one which conveys a sensory impulse from the peripheral or outer part of a nerve to the spinal cord or brain, and which is, therefore, termed *afferent*; and that a motor nerve is one which transmits an impulse from the nerve centre, or is *efferent*. No difference in structure, or in chemical or physical composition, can be discerned between the afferent and the efferent nerves. A certain period of time is required for the transmission of all impulses. The speed with which an impulse travels has been found to be comparatively slow, being even less than that of sound, which is 1,120 feet per second.

The experiments heretofore related have been confined solely to the nerves. We may now proceed to the consideration of what takes place when the spinal cord is operated upon in a similar way. If the cord be divided with a knife or other instrument, all parts of the body supplied with nerves given off below the division will become paralyzed and insensible, while all parts of the body supplied with nerves from the spinal cord *above* the division will retain their sensibility and power of motion. If, however, only the posterior half of the spinal cord is divided, or destroyed, there is loss of sensation alone; and, if the anterior portion is cut in two, and the continuity of the posterior part is left undisturbed, there is loss of voluntary motion of the lower limbs, but sensation remains.

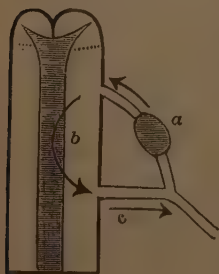
Reflex Action of the Spinal Cord. In relation to the brain, the spinal cord is a great mixed motor and sensory nerve, but, in addition to this, it is also a distinct nervous centre, in which originate and terminate all those involuntary impulses which exert so potent an influence in the preservation and economy of the body. That peculiar power of the cord, by which it is enabled to convert sensory into motor impulses, is that which distinguishes it, as a central organ, from a nerve, and is called *reflex action*.

The gray matter, and not the white, is the part of the cord which possesses this power. This reflex action is a special func-

tion of the spinal cord, and serves as a monitor to, and regulator of the organs of nutrition and circulation, by placing them, ordinarily, beyond the control of conscious volition.

If the foot of a decapitated frog is irritated, there is an instant contraction of the corresponding limb; if the irritation is intense the other limb also contracts. These motions indicate the existence, in some part of the spinal cord, of a distinct nerve-centre, capable of converting and reflecting impulses. It has been found by experiment, that the same movements will

Fig. 57.



take place if the irritation be applied to any portion of the body to which the spinal nerves are distributed, thus giving undoubted evidence that the spinal cord in its entirety is capable of causing these reflections. Fig. 57 represents the course of the nervous impulses. The sensory impulse passes upward along the posterior root, *a*, until it reaches the imbedded gray matter, *b*, of the cord, by which it is reflected, as a motor impulse, downward along the anterior root, *c*, to the muscles

whence the sensation was received. This is the reflex action of the spinal cord. There is no consciousness or sensation connected with this action, and the removal of the brain and the sympathetic system does not diminish its activity. Even after death it continues for some time, longer in cold-blooded than in warm-blooded animals, on account of the difference in temperature, thus showing this property of the spinal cord. By disease, or the use of certain poisons, this activity may be greatly augmented, as is frequently observed in the human subject. A sudden contact with a different atmosphere may induce these movements. The contraction of the muscles, or cramp, often experienced by all persons, in stepping into a cold bath, or emerging from the cozy sitting-room into a chilly December temperature, are familiar illustrations of reflex movements. It has been demonstrated that the irritability of the nerves may be impaired or destroyed, while

that of the muscles to which they are distributed remains unchanged; and that the motor and sensory classes of filaments may be paralyzed independently of each other.

The reflex actions of the spinal cord have been admirably summed up by Dr. Dalton, as exerting a general, protective influence over the body, presiding over the involuntary action of the limbs and trunk, regulating the action of the sphincters, rectum, and bladder, and, at the same time, exercising an indirect influence upon the nutritive changes in all parts of the body to which the spinal filaments are distributed.

The Brain. The brain is a complex organ, which is divided into the *medulla oblongata*, the *cerebellum*, and the *cerebrum*.

The *medulla oblongata* is situated just above the spinal cord, and is continuous with it below, and the brain above. It has distinct functions which are employed in the preservation and continuance of life. It has been termed the "vital knot," owing to the fact that the brain may be removed and the cord injured and still the heart and lungs will continue to perform their functions, until the *medulla oblongata* is destroyed.

The arrangement of the white and gray matter of the *medulla oblongata* is similar to that of the spinal cord; that is to say, the white matter is external and the gray internal; whereas in the *cerebellum* and *cerebrum* this order is reversed. The fibres of the spinal cord, before entering this portion of the brain, decussate, those from the right side crossing to the left, and those from the left crossing to the right side. By some authors this crossing of the sensory and motor filaments has been supposed to take place near the *medulla oblongata*. Dr. Brown-Sequard shows, however, that it takes place at every part of the spinal cord. The *medulla oblongata* is traversed by a longitudinal fissure, continuous with that of the spinal cord. Each of the lateral columns thus formed are subdivided into sections, termed respectively the *Corpora Pyramidalia*, the *Corpora Olivaria*, the *Corpora Restiformia* and the *Posterior Pyramids*.

The *Corpora Pyramidalia* (see 1, 1, Fig. 58) are two small medullary eminences or cords, situated at the posterior surface of the medulla oblongata; approaching the Pons Varolii they become larger and rounded.

The *Corpora Olivaria* (3, 3, Fig. 58) are two elliptical prominences, placed exterior to the corpora pyramidalia. By some physiologists these bodies are considered as the nuclei, or vital points, of the medulla oblongata. Being closely connected with the nerves of special sensation, Dr. Solly supposed that they preside over the movements of the larynx.

Fig. 58.



Fig. 59.



The *Corpora Restiformia* (5, 5, Fig. 59) are lateral and posterior rounded projections of whitish medulla, which pass upward to the cerebellum and from the *crura cerebelli*, so called because they resemble a leg. The filaments of the pneumogastric nerve originate in the ganglia of these parts.

The *Posterior Pyramids* are much smaller than the other columns of the medulla oblongata. They are situated (4, 4, Fig. 59) upon the margin of the posterior fissures in contact with each other.

The functions of the medulla oblongata, which begin with the earliest manifestations of life, are of an instinctive

character. If the cerebellum and cerebrum of a dove be removed, the bird will make no effort to procure food, but if a crumb of bread be placed in its bill, it is swallowed naturally and without any special effort. So also in respiration, the lungs continue to act after the inter-costal muscles are paralyzed; if the diaphragm loses its power, suffocation is the result, but there is still a convulsive movement of the lungs for sometime, indicating the continued action of the medulla oblongata.

The *Cerebellum*, or little brain, is situated in the posterior chamber of the skull, beneath the *tentorium*, a tent-like process of the dura mater which separates it from the cerebrum. It is convex, with a transverse diameter of between three and one-half and four inches, and is little more than two inches in thickness. It is divided on its upper and lower surfaces into two lateral hemispheres, by the superior and inferior vermiform processes, and behind by deep notches. The cerebellum is composed of gray and white matter, the former being darker than that of the cerebrum. From the beautiful arrangement of tissue, this organ has been termed the *arbor vitæ*.

The *peduncles of the cerebellum*, the means by which it communicates with the other portions of the brain, are divided into three pairs, designated as the *superior*, *middle* and *inferior*. The first pass upward and forward until they are blended with the tubercles of the *corpora quadrigemina*. The second are the *crura cerebelli*, which unite in two large *fasciculi*, or pyramids, and are finally lost in the *pons varolii*. The inferior peduncles are the *corpora restiformia*, previously described, and consist of both sensory and motor filaments. Some physiologists suppose that the cerebellum is the source of that harmony or associative power which co-ordinates all voluntary movements, and effects that delicate adjustment of cause to effect, displayed in muscular action. This fact may be proved by removing the cerebellum of a bird and observing the results, which are an uncertainty in all its movements, and difficulty in standing, walking, or flying, the bird being unable to direct its course. In the animal kingdom we find an apparent correspondence between the size of the cerebellum and the variety and extent of the movements of the animal. Instances are cited, however, in which no such proportion exists, and so the matter is open to controversy. The general function

of the cerebellum, therefore, cannot be explained, but the latest experiments in physiological and anatomical science seem to favor the theory that it is in some way connected with the harmony of the movements. This co-ordination, by which the adjustment of voluntary motion is supposed to be effected, is not in reality a *faculty* having its seat in the brain substance, but is the harmonious action of many forces through the cerebellum.

The *Cerebrum* occupies five times the space of all the other portions of the brain together. It is of an ovoid form, and becomes larger as it approaches the posterior region of the skull. A longitudinal fissure covered by the dura mater separates the cerebrum into two hemispheres, which are connected at the base of the fissure, by a broad medullary band, termed the *corpus callosum*. Each hemisphere is subdivided into three lobes. The anterior gives form to the forehead, the middle rests in the cavity at the base of the skull, and the posterior lobe is supported by the tentorium, by which it is separated from the cerebellum beneath. One of the most prominent characteristics of the cerebrum is its many and varied *convolutions*. These do not correspond in all brains, nor even on the opposite side of the same brain, yet there are certain features of similarity in all; accordingly, anatomists enumerate four *orders of convolutions*. The first order begins at the *substantia perforata* and passes upward and around the corpus callosum toward the posterior margin of that body, thence descends to the base of the brain, and terminates near its origin. The second order originates from the first, and subdivides into two convolutions, one of which composes the exterior margin and superior part of the corresponding hemisphere, while the other forms the circumference of the *fissure of Sylvius*. The third order, from six to eight in number, is found in the interior portion of the brain, and inosculates between the first and second orders. The fourth is found on the outer surface of the hemisphere, in the space between the sub-orders of the second class. A peculiar fact relating to these convolutions is observed by all anatomists: mental

development is always accompanied by an increasing dissimilarity between their proportional size.

The cerebral hemispheres may be injured or lacerated without any pain to the patient. The effect seems to be one of stupefaction without sensation or volition. A well-developed brain is a very good indication of intelligence and mental activity. That the cerebrum is the seat of the reasoning powers, and all the higher intellectual functions, is proved by three facts. (1.) If this portion of the brain is removed, it is followed by the loss of intelligence. (2.) If the human cerebrum is injured, there is an impairment of the intellectual powers. (3.) In the animal kingdom, as a rule, intelligence corresponds to the size of the cerebrum. This general law of development is modified by differences in the cerebral texture. Men possessing comparatively small brains may have a vast range of thought and acute reasoning powers. Anatomists have found these peculiarities to depend upon the quantity of gray matter which enters into the composition of the brain.

In the cerebro-spinal system there are three different kinds of reflex actions. (1.) Those of the spinal cord and medulla oblongata are performed without any consciousness or sensation on the part of the subject. (2.) The second class embraces those of the tuber annulare, where the perception gives rise to motion without the interference of the intellectual faculties. These are denominated purely *instinctive* reflex actions, and include all those operations of animals which seem to display intelligent forethought; thus, the beaver builds his habitation over the water, but not a single apartment is different from the beaver homestead of a thousand years ago; there is no improvement, no retrogression. Trains of thought have been termed a third class of reflex actions. It is evident that the power of reasoning is, in a degree, possessed by some of the lower animals: for instance, a tribe of monkeys on a foraging expedition will station guards at different parts of the field, to warn the plunderers of the approach of danger. A cry from the sentinel, and general confusion is followed by retreat. Reason only attains its highest development in man, in whom it passes the bounds of ordinary existence, and, with the magic wand of love, reaches outward into the

vast unknown, lifting him above corporeal being, into an atmosphere of spiritual and divine Truth.

The Cranial Nerves. From the brain, nerves are

Fig. 60.



Section of the brain and an ideal view of the pneumogastric nerve on one side, with its branches. *a.* Vertical section of the cerebrum. *b.* Section of the cerebellum. *c.* Corpus callosum. *d.* Lower section of medulla oblongata. Above *d.* origin of the pneumogastric nerve. 1. Pharyngeal branch. 2. Superior laryngeal. 3. Branches to the lungs. 4. Branches to the liver. 5. Branches to the stomach.

given off in pairs, which succeed one another from in front backwards to the number of twelve. The *first* pair, the *olfactory* nerves, are the nerves of the sense of smell. The *second* pair are the *optic*, or the nerves of the sense of sight. The *third* pair are called the *motores oculi*, the movers of the eye, from the fact that they are distributed to all the muscles of the eye with the exception of two. The *fourth* pair and the *sixth* pair each supply one of the muscles of the eye, on each side, the fourth extending to the superior oblique muscle, and the sixth to the external rectus muscle. The nerves of the *fifth* pair are very large; they are each composed of two bundles of filaments, one motor and the other sensory, and have, besides, an additional resemblance to a spinal nerve by having a ganglion on each of their sensory roots, and, from the fact that they have three chief divisions, are often called the *trigeminal*, or *trifacial*, nerves. They are nerves of special sense, of sensation, and of motion. They are the sensitive nerves which supply the cranium and face, the motor nerves of the muscles of mastication, the *buccinator* and the *masseter*, and their third branches, often called the *gustatory*, are distributed to the front portion of

the tongue, and are two of the nerves of the special sense of taste. The *seventh* pair, called also the *facial* nerves, are

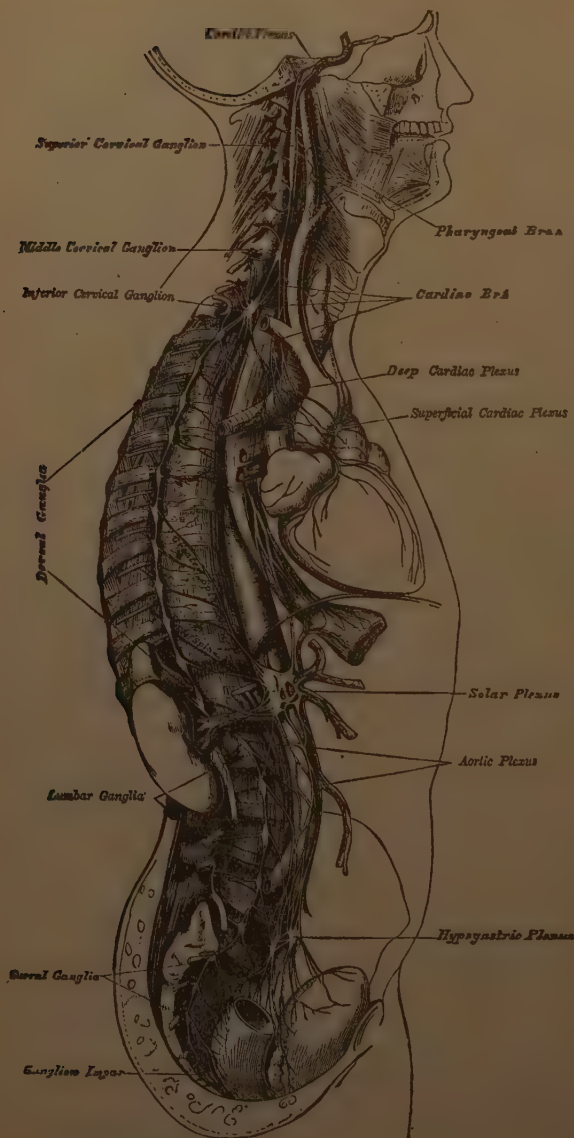
the motor nerves of the muscles of the face, and are also distributed to a few other muscles; the *eighth* pair, termed the auditory nerves, are the nerves of the special sense of hearing. As the *seventh* and *eighth* pairs of nerves emerge from the cavity of the skull together, they are frequently classed by anatomists as one, divided into the *facial* or *portio dura*, as it is sometimes called, and the *auditory*, or *portio mollis*. The *ninth* pair, called the *glosso-pharyngeal*, are mixed nerves, supplying motor filaments to the *pharyngeal muscles* and filaments of the special sense of taste to the back portion of the tongue. The *tenth* pair, called the *pneumogastric*, or *par vagum*, are very important nerves, and are distributed to the larynx, the lungs, the heart, the stomach, and the liver, as shown in Fig. 60. This pair and the next are the only cerebral nerves which are distributed to parts of the body distant from the head. The *eleventh* pair, also called *spinal accessory*, arise from the sides of the spinal marrow, between the anterior and posterior roots of the dorsal nerves, and run up to the medulla oblongata, and leave the cranium by the same aperture as the pneumogastric and glosso-pharyngeal nerves. They supply certain muscles of the neck, and are purely motor. As the glosso-pharyngeal, pneumogastric, and spinal accessory nerves leave the cranium together, they are by some anatomists counted as the *eighth* pair. The *twelfth* pair, known as the *hypo-glossal*, are distributed to the tongue, and are the motor nerves of that organ.

THE GREAT SYMPATHETIC.

A double chain of nervous ganglia extends from the superior to the inferior parts of the body, at the sides and in front of the spinal column, and is termed, collectively, the system of the *great sympathetic*. These ganglia are intimately connected by nervous filaments, and communicate with the cerebro-spinal system by means of the motor and sensory filaments which penetrate the sympathetic. The nerves of this system are distributed to those organs over which conscious volition has no direct control.

Four of the sympathetic centers, situated in the front and lower portions of the head, are designated as the *ophthalmic*, *spheno-palatine*, *submaxillary* and *otic ganglia*. The first of these, as its name indicates, is distributed to the eye, pene-

Fig. 61.



Course and distribution of the Great Sympathetic Nerve.

trates the *sclerotic membrane* (the white, opaque portion of the eyeball, with its transparent covering), and influences the contraction and dilation of the iris. The second division is situated in the angle formed by the sphenoid and maxillary bone, or just below the ear. It sends motor and sensory filaments to the palate, and *velum palati*. Its filaments penetrate the carotid plexus, are joined by others from the motor roots of the facial nerve and the sensory fibres of the superior maxillary. The third division is located on the submaxillary gland. Its filaments are distributed to the sides of the tongue, the sublingual, and submaxillary glands. The otic ganglion is placed below the base of the skull, and also connects with the *carotid plexus*. Its filaments of distribution supply the internal muscles of the *malleus*, the largest bones of the *tympanum*, the membranous linings of the tympanum and the *eustachian tube*. Three ganglia, usually designated as the *superior*, *middle*, and *inferior*, connect with the cervical and spinal nerves. Their interlacing filaments are distributed to the muscular walls of the larynx, pharynx, trachea, and esophagus, and also penetrate the *thyroid gland*. The use of this gland is not accurately known. It is composed of a soft, brown tissue, and consists of lobules contained in lobes of larger size. It forms a spongy covering for the greater portion of the larynx, and the first section of the trachea. That it is an important organ, is evident from the fact that it receives four large arteries, and filaments from two pairs of nerves.

The sympathetic ganglia of the chest correspond in number with the terminations of the ribs, over which they are situated. Each ganglion receives two filaments from the intercostal nerve, situated above it, thus forming a double connection. The thoracic ganglia supply with motor fibers that portion of the aorta which is above the diaphragm, the esophagus, and the lungs.

In the abdomen the sympathetic centers are situated upon the *cœliac* artery, and are termed, collectively, the *semilunar*, *cœliac ganglion*. Numerous inosculating branches radiate from this center and are called, from the method of their distribution, the *solar plexus*. From this, also, originate other plexi which are distributed to the stomach, liver, kidneys, intestines, spleen, pancreas, supra-renal glands, and to the organs of generation. Four other pairs of abdominal ganglia

connected with the lumbar branches are united by filaments to form the semilunar ganglion.

The sympathetic ganglia of the pelvis consist of five pairs, which are situated upon the surface of the sacrum. At the extremity of the spinal column this system terminates in a single knot, designated as the *ganglion impar*.

Owing to the position of the sympathetic ganglia, deeply imbedded in the tissues of the chest and abdomen, it is exceedingly difficult to subject them to any satisfactory experiments. A few isolated facts from the basis of all our knowledge concerning their functions. They give off both motor and sensory filaments. The contraction of the *iris* is one of the most familiar examples of the action of the sympathetic system.

In the reflex actions of the nerves of special sense, the sensation is transmitted through the cerebro-spinal system, and the motor impulse is sent to the deep-seated muscles by the sympathetic system. Physiologists enumerate three kinds of reflex actions, which are either purely sympathetic, or partially influenced by the cerebro-spinal system. Dr. Dalton describes them as follows:

First.—"Reflex actions taking place from the internal organs, through the sympathetic and cerebro-spinal system, to the voluntary muscles and sensitive surfaces.—The convulsions of young children are often owing to the irritation of undigested food in the intestinal canal. Attacks of indigestion are also known to produce temporary amaurosis [blindness], double vision, strabismus, and even hemiplegia. Nausea, and a diminished or capricious appetite, are often prominent symptoms of early pregnancy, induced by the peculiar condition of the uterine mucous membrane."

Second.—"Reflex actions taken place from the sensitive surfaces, through the cerebro-spinal and sympathetic systems, to the involuntary muscles and secreting organs.—Imprudent exposure of the integument to cold and wet, will often bring on a diarrhea. Mental and moral impressions, conveyed through the special senses, will affect the motions of the heart, and disturb the processes of digestion and secretion. Terror, or an absorbing interest of any kind, will produce a dilatation of the pupil, and communicate in this way a peculiarly wild and

unusual expression to the eye. Disagreeable sights or odors, or even unpleasant occurrences, are capable of hastening or arresting the menstrual discharge, or of inducing premature delivery."

Third.—"Reflex actions taking place through the sympathetic system from one part of the body to another.—The contact of food with the mucous membrane of the small intestine excites a peristaltic movement in the muscular coat. The mutual action of the digestive, urinary, and internal generative organs upon each other takes place entirely through the medium of the sympathetic ganglia and their nerves. The variation of the capillary circulation in different abdominal viscera, corresponding with the state of activity or repose of their associated organs, are to be referred to a similar nervous influence. These phenomena are not accompanied by any consciousness on the part of the individual, nor by any apparent intervention of the cerebro-spinal system."

CHAPTER XIII.

THE SPECIAL SENSES.

SIGHT.

The eye is the organ through which we perceive, by the agency of light, all the varied dimensions, relations, positions, and visible qualities of external objects.

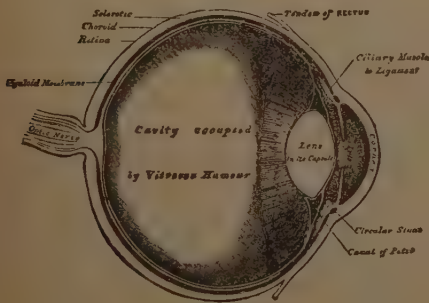
The number, position, and perfection of the eyes, vary remarkably in different orders, in many instances corresponding to the mode of life, habitation, and food of the animal. A skillful anatomist may ascertain by the peculiar formation of the eye, without reference to the general physical structure, in what element the animal lives. Sight is one of the most perfect of the senses, and reveals to man the beauties of creation. The æsthetic sentiment is acknowledged to be the most refining element of civilized life. Painting, sculpture, architecture, and all the scenes of nature, from a tiny wayside flower to a Niagara, are subjects in which the poet's eye sees rare beauties to mirror forth in the rhythm of immortal verse.

In the vertebrates, the organs of vision are supplied with filaments from the second pair of cranial nerves. In mammalia, the eyes are limited to two in number, which in man are placed in circular cavities of the skull, beneath the anterior lobes of the cerebrum. Three membranes form the lining of this inner sphere of the eye, called respectively the Sclerotic, Choroid, and Retina.

The *Sclerotic*, or outer covering, is the white, firm membrane, which forms the larger visible portion of the eyeball. It is covered in front by a colorless, transparent segment, termed the *cornea*, which gives the eye its lustrous appearance. Within

the sclerotic, and lining it throughout, is a thin, dark membrane, termed the *Choroid*. Behind the cornea it forms a curtain, called the *iris*, which gives the eye its color. The muscles of the iris contract or relax according to the amount of light received, thus enlarging or diminishing the size of the circular opening called the *pupil*. The *Retina* is formed by the optic nerve, which penetrates the sclerotic and choroid and spreads out into a delicate, grayish, semi-transparent membrane. The retina is one of the most *essential* organs of vision, and consists of two layers. A spheroidal, transparent body, termed the *crystalline lens*, is situated directly behind the pupil. It varies in density, increasing from without inward, and forms a

Fig. 62.



perfect refractor of the light received. The space in front of the crystalline lens is separated by the iris into two compartments, called respectively the *anterior* and *posterior chambers*. The fluid contained within them, termed the *aqueous humor*, is secreted by the cornea, iris, and

ciliary processes. The space behind the crystalline lens is occupied by a fluid, called the *vitreous humor*. This humor is denser than the other fluids and has the consistency of jelly, being perfectly transparent. "The function of the crystalline lens is to produce distinct perception of form and outline." * The transparent humors of the eye also contribute to the same effect, but only act as auxiliaries to the lens.

The figure on the next page represents the course of the rays of light proceeding from an object *a b*, refracted by the lens, and forming the inverted image *x y* on the screen. All rays of light proceeding from *b* are concentrated at *y*, and those proceeding from *a* converge at *x*. Rays of light emanating from the center of the object *a b* pursue a parallel course, and form the center of the image. Rays of light passing

* Dalton—Human Physiology.

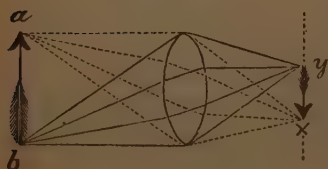
through a double convex lens converge at a point called the *focus*. In the organ of vision, if perfect, the focus is on the retina, which serves as a screen to receive the image or impression. We have a distinct perception of the outline of a distant hill, and also of a book lying before us. The rays of light we receive from these objects cannot have the same focus. How, then, can we account for the evident accommodation of the eye to the varying distances? Various theories have been advanced to explain this adjustment; such as changes in the curvature of the cornea and lens; a movement of the lens, or a general change in the form of the eyeball, by which the axis may be lengthened or shortened.

Two facts comprise all the positive knowledge which we possess on this subject. Every person is conscious of a muscular effort in directing the eye to a

near object, as a book, and of fatigue, if the attention is prolonged. If, now, the eyes be directed to a distant object, there will result a sense of rest, or passiveness. By various experi-

ments it has been proved that the accommodation or adjustment of the eye for near objects requires a muscular effort, but for distant objects the muscles are in an essentially passive condition. An increase in the convexity of the crystalline lens is now admitted to be necessary for a distinct perception of near objects. We may give two simple illustrations, cited by Dr. Dalton in his recent edition of *Human Physiology*. If a candle be held near the front of an eye which is directed to a distant object, three reflected images of the flame will be seen in the eye, one on each of the anterior surfaces of the cornea and lens, and a third on the posterior surface of the latter. If the eye is directed to a near object, the reflection on the cornea remains unchanged, while that on the anterior surface of the lens gradually diminishes and approximates in size the reflection on the cornea, thus giving conclusive evidence that, in viewing a near object, the anterior surface of the crystalline lens become *more convex*, and at the same time approaches the cornea. Five or six inches is the minimum limit of the muscular adjustment of the eye.

Fig. 63.



From that point to all the boundless regions of space, to every star and nebulae which send their rays to our planet, human vision can reach. It is the sense by which we receive knowledge of the myriads of worlds and suns which circle with unfailing precision through infinite space.

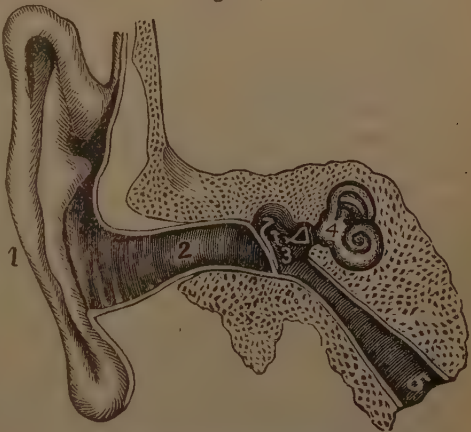
HEARING.

Hearing depends upon the sonorous vibrations of the atmosphere. The waves of sound strike the sensitive portions of the ear, and their impressions upon the auditory nerves are termed the sensations of hearing. The ear is divided into three parts, called respectively the External, Middle, and Internal ear.

The external organs of hearing are two in number, and placed on opposite sides of the head. In most of the higher order of vertebrates, they are so situated as to give expression and proportion to the facial organs, and, at the same time, to suit the requirements of actual life.

The *External ear* is connected with the interior part by a prolongation of its orifice, termed the *external auditory meatus*. In man, this gristly portion of the auditory apparatus is about one inch in length, lined by a continuation of the integument of the ear, and has numerous hairs on its surface, to prevent the intrusion of foreign substances. Between the external meatus and the cavity of the middle ear is the *membrana tympani*, which is stretched across the opening like the head of a drum. The *tympanum*, or ear-drum, communicates with the pharynx by the *eustachian tube*, which is a narrow passage

Fig. 64.



Internal and External Ear.

- | | |
|---------------------|------------------------------|
| 1. External ear. | 2. Internal auditory meatus. |
| 3. Tympanum. | 4. Labyrinth. |
| 5. Eustachian tube. | |

lined with delicate, ciliated epithelium. On the posterior portion it is connected with the *mastoid cells*. Three small bones are stretched across the cavity of the tympanum, and called, from their form, the *malleus*, *incus* and *stapes*, or the hammer, anvil, and stirrup. Agassiz mentions a fourth, which he terms the *os orbiculare*. Each wave of sound falling upon the *membrana tympani*, throws its molecules into vibrations which are communicated to the chain of bones, which, in turn, transmits them to the membrane of the *foramen ovale*. The three muscles which regulate the tension of these membranes are termed the *tensor tympani*, *laxator tympani*, and *stapedium tympani*.

The *Labyrinth*, or *Internal ear*, is a complicated cavity, consisting of three portions termed the *vestibule*, *cochlea*, and *semi-circular canals*. The vestibule is the central portion and communicates with the other divisions. The labyrinth is filled with a transparent fluid, termed *perilymph*, in which are suspended, in the vestibules and canals, small membranous sacs, containing a fluid substance, termed *endolymph* (sometimes called *vitrine auditive* from its resemblance to the vitreous humor of the eye). The filaments of the auditory nerve penetrate the membranous tissues of these sacs, and also of those suspended at the commencement of the semi-circular canals. These little sacs are supposed to be the seat of hearing, and to determine, in some mysterious way, the quality, intensity and pitch of sounds.

The determination of the *direction* of sound is a problem of acoustics. Some have contended that the arrangement of the semi-circular canals is in some way connected with this sensation. But this supposition, together with the theory of the transmission of sound through the various portions of the cranial bones, has been exploded.

From the foregoing description, it will be seen that the labyrinth and tympanum are the most essential parts of the organs of hearing. In delicacy and refinement this sense ranks next to sight. The emotions of beauty and sublimity, excited by the warbling of birds and the roll of thunder, are scarcely distinguishable from the intense emotions arising from sight. It is a remarkable fact, that the refinement or cultivation of these senses is always found

associated. Those nations which furnish the best artists, or have the highest appreciation of painting and sculpture, produce the most skillful musicians, those who reduce music to a science.

SMELL.

Next in order of delicacy, and more closely allied with the physical functions, is the sense of smell. Delicate perfumes, or the fragrance of a flower, impart an exhilarating sensation of delight, while numerous odors excite a feeling of disgust. The organ of smell is far less complicated in its structure than the eye or the ear. It consists of two cavities having cartilaginous walls, and lined with a thick mucous coat, termed the *pituitary membrane*, over which are reflected the olfactory nerves. Particles of matter, too minute to be visible even through the microscope, are detached from the odorous body and come in contact with the nerves of smell, which transmit the impressions or impulses thus received to the brain. Fig. 65 shows the distribution of the olfactory nerves in the nasal passages. The nose is supplied with two kinds of filaments which are termed respectively nerves of *special* and nerves of *general* sensation. Compared with the lower animals, especially with those belonging to the carnivorous species, the sense of smell in man is feeble. The sensation

Fig. 65.



1. Frontal sinus. 2. Nasal bone. 3. Olfactory ganglion and nerves. 4. Nasal branch of the fifth pair. 5. Sphenopalatine ganglion. 6. Soft palate. 7. Hard palate. a. Cerebrum. b. Anterior lobes. c. Corpus callosum. d. Septum lucidum. f. Fornix. g. Thalami optici. h. Corpora striata.

of smell is especially connected with the pleasures and necessities of the animal life.

TASTE.

The sense of taste is directly connected with the preservation and nutrition of the body. A delicious flavor produces a desire to eat a savory substance. Some writers on hygiene have given this sense an instinctive character, by assuming that all articles having an agreeable taste are suitable for diet. The nerves of taste are distributed over the surface of the tongue and palate, and their minute extremities terminate in well developed *papillæ*. These *papillæ* are divided into three classes, termed, from their microscopic appearance, *filiform*, *fungiform* and *circumvallate*. The organ of taste is the mucous membrane which covers the back part of the tongue and the palate. The *papillæ* of the tongue are large and distinct, and covered with separate coats of epithelium. The *filiform papillæ* are generally long and pointed and are found over the entire surface of the tongue. The *fungiform* are longer, small at the base and broad at the end. The *circumvallate* are shaped like an inverted V and are found only near the root of the tongue; the largest of this class of *papillæ* have other very small *papillæ* upon their surfaces. It is now pretty satisfactorily established that the *circumvallate*, or *fungiform papillæ* are the only ones concerned in the special sense of taste.

The conditions necessary to taste are, that the substance be in solution either by artificial means, or by the action of the saliva; and that it be brought in contact with the sensitive filaments imbedded in the mucous membrane. The nerves of taste are both *general* and *special* in their functions. If the general sensibility of the nerves of taste is unduly excited, the function of sensibility is lost for some time. If a peppermint lozenge is taken into the mouth, it strongly excites the general sensibilities of taste, and the power of distinguishing between special flavors is lost for a few moments. A nauseous drug may then be swallowed without experiencing any disagreeable taste.

Paralysis of the facial nerve often produces a marked effect in the sensibility of the tongue. Where this influence lies has not been fully explained; probably it is indirect, being produced by some alteration in the vascularity of the parts or a diminution of the salivary secretions.

TOUCH.

By the sense of touch, we mean the *general sensibility of the skin*. Sensations of heat and cold are familiar illustrations of this faculty. By the sense of touch, we obtain a knowledge of certain qualities of a body, such as form, consistency, roughness, or smoothness of surface, etc. The tip of the tongue possesses the most acute sensibility of any portion of the body, and next in order are the tips of the fingers. The hands are the principal organs of tactile sensation. The nerves of general sensibility are distributed to every part of the cutaneous tissue. The contact of a foreign body with the back, will produce a similar *tactile* sensation, as with the tips of the fingers. The sensation, however, will differ in *degree* because the back is supplied with a much smaller number of sensitive filaments; in *quality* it is the same.

CHAPTER XIV.

THE MECHANISM OF LIFE.

Constitutionally the human body, like every other living body, is an organic mechanism which, charged by nutrition, discharges itself in functions so long as it is alive. It is an exceedingly complex and intricate structure fashioned by gradual processes of adaptive interaction with its changing environment through dateless time to discharge itself in certain set ways. Its discharge of energy may be either functional or functionless. When the fit external object of discharge is absent, the explosion of unfulfilled passion—irritation, emotion, agitation of mind, or whatever the internal commotion of the activity of molecules¹ may be named—expends itself in a confusion of aimless, tumultuous, sometimes grotesquely incoherent movements. Hysterical tears and laughter, sobs and wails, cries and ejaculations, contortions of pleasure and pain have their uses to the individuals concerned, although they serve no other purpose, they afford self-relief. Look at the crying infant venting its anger in contortions and half-convulsive agitations of its entire body—face, voice, limbs, trunk—, these actions being movements which, employed and recognized as normal modes of expression, have meaning and uses, but have no objective² ends in themselves, and would, if it were not for conventional interpretation, be thought as unmeaning and considered as morbid as convulsions. Discharge of passion

1 Molecule—smallest part of a substance that can exist separately and still retain its composition and properties.

2 Objective—apparent to the senses of others. Subjective—apparent only to the person concerned.

is not outward only; if the explosion does not expend itself in visible movements, it does so inwardly in invisible disturbances of the innermost processes of life. Such obvious effects as enlarged blood-vessels, pallor and flush of face, arrested and perverted secretions testify to more intimate disturbances which take place inwardly. These disturbances are responsible for the passion-infected processes of faulty nutrition and the passion-infected processes of vicious thought. The man or woman who cannot consume his (or her) passion internally by suitable distribution along well-trained paths of reflection and action, as becomes a composed and cultured mind-mechanism, does wisely, perhaps, to give it freedom of wild speech and gesture, for fear that it may spend itself harmfully in poisoning the mental condition and disordering the general health. Even profanity may, in exceptional cases, have a hygienic use in discharging anger which, when no better outlet is practicable, might prove injurious if spent inwardly. To complete the picture, let us glance for a moment at an unpleasant sight—at an epileptic who, walking quietly along a street, abruptly throws up rigid arms, utters a strange yell, and with his whole body stiffened in spasm, falls senseless to the ground as if he had been given an overwhelming electric shock, and is then dreadfully convulsed. All the force now displayed was previously present in the unfortunate man; it has merely been discharged abruptly in an explosion, and although formless as regards its right form of expression, yet nobody can deny the presence of that force. In cases like this the explosion is none the less necessary because it is indicative of disease. It is merely the outburst, in large and violent volume, of energy which in normal health is finely divided and distributed through a multitude of minute and regular actions in proper functions. One might compare the process to stored electricity, which, distributed correctly along the necessary insulating wires, lights many lamps, but when not so insulated and distributed through regular channels explodes and shatters like a flash of lightning.

It is apparently a favorite method of Nature to work by

means of explosions. Earthquakes and thunderstorms, volcanic outbursts, popular revolutions, the raging of the sea, pulsations of muscles and thrills of nerves all fulfill that law. A sneeze is an explosion; and yawns, coughs, spasms of pain, the expulsion of a secretion or an excretion, must also be classed as explosions. And in their final analysis all thrills of feeling, and all currents of thought are the cumulative sequence of minute explosions. Further, in a physiological sense there is gratification, because there is relief, in the discharge. What can be more exasperating than the frustration of any reflex³ discharge imminently expected, even if it is only a sneeze? What more intense pain can be imagined than that caused by the violent spasm which strains in vain to overcome an obstruction in the intestines, uterus,⁴ or urethra⁵? From the discharge of secretion or expulsion of excretion, when the expected action is interfered with, to the helplessness of the individual to describe what he suffers—the facts throughout are the same.

As Nature's evident concern is to propagate and perpetuate life, not to continue individual life—of that there is little consideration—the work is done by the domination of an imperious reproductive instinct, urging gratification as a blind explosive impulse, without regard to the purpose of the performance. Reason has little to say in the matter, even in creatures which possess it in a high degree. Had reason accurate foresight of the end of the instinct, it might frustrate the purpose. Yet how quiet a means might conceivably have been devised for the propagation of the species, not unfitting the dignity of the noblest and most refined species, in a simple and graceful manner with no more expression of passion and action than the touch of a hand, or the gift of a kiss. But Nature has decided otherwise; it effects its purpose by the urgent desires of two individuals to become one in a union of body, and then to give off in an explosion of intense sensation a part of the temporarily unified being to become another self. It is the

³ Involuntary action due to nerve stimulus.

⁴ Uterus (womb) female organ of gestation.

⁵ Urethra—excretory canal of the bladder.

underlying attraction, physical, like the attraction of the sea by the moon, or of the plant by light, which expresses itself in feeling as desire; and in that desire one may discern the outward and visible operation, in mass, of the kind of force which works inwardly and invisibly in the ascent of organic molecules to higher complexities of composition. Crude as it may look to think of the rapturous union of two rational beings as resembling a magnetic polarization,⁶ yet if descent is made in thought from the mass to the molecules which form it, and their positions pictured in mind, the conception does not seem unreasonable, but natural.

From the simplest form of living monad⁷ to the most complex animal organism, there is a progressive process of charging in structure and discharging in function, the end or aim of the discharge being determined by the form of the structure. Structure invisible sometimes, no doubt; but to say of any living matter that it is actually without structure because our senses with the newest instruments cannot detect it would be most unwise. Life must be regarded as a process, not a fixed condition. In a living molecule, as in a solar system, opposing forces are at work to maintain by their counteractions the unity of a continuing equilibrium; attractive or constructive forces bind together and build up, counterbalancing, or appearing to coerce, forces which tend to dissolve and break down. Such opposing action of forces is universal; a perpetual tendency of things to relapse into disorder works everywhere in antagonism to forces which strain to bring about order and progress. It must never be forgotten that this procedure occurs in the living as well as in the non-living world. Production, preservation, destruction—this is the inexorable cycle of life, in mollusk^a and in man, matter or mind, and whatever may be the factors and processes involved.

Between ordinary physical energy and the highest human

⁶ Magnetic polarity is the possession of poles by a substance as indicated by the fact that it attracts one pole of a magnetic needle and repels the other.

⁷ Monad—a simple, single-celled form of life.

^a Mollusk—a soft-bodied animal, usually with an external shell—an oyster for example.

energy there is an apparent deep gulf fixed, but that is because the intermediate steps are overlooked; for in Nature there is no division anywhere, everywhere there exists an uninterrupted connection of things, without beginning and without end. Between man and inanimate Nature intervenes all the living vegetable world in its many forms and degrees of life, from very minute to mighty, accumulating stores of vital matter and power which man uses, either directly for food, or indirectly in more concentrated form when it has been further vitalized by the animals which feed upon it, and on which he feeds. The minute seed grows silently and steadily by assimilating and condensing into its substance along with suitable material elements the intensely active and powerful motions of light and heat which continuously beat upon it with their innumerable waves, and continually add to its gradually growing gains. Progressively it absorbs and utilizes them and their motions in living matter and its motions, so that, at last, through these minute, constant, intense efforts of construction and the accumulating increments of organic substances, the tree towers above us in all the grandeur of its mature form. It finally represents an inconceivable concentration of condensed energies. Thousands of years later its carbonized wood, known to us as "coal," is employed for human use and comfort in producing heat and light. The energies stored in the many minute laboratories of the transformed tree are loosened and discharged in the coarse furnaces of human manufacture.

Considering the tremendous force exerted by a tender shoot or root, which, insidiously pushing itself into the crevice of a brick (or stone) wall, grows steadily until it cracks and shatters that wall, one may imagine what sound and tumult there would be if the silent motions of its forces were discharged in one massive explosion. The release and expansion of condensed intensities of motion by explosion of substance consists of a large and voluminous display of simpler motions. If a few drops of water contain, and can be made to evolve as much electricity as under different modes of display

would be sufficient to produce a lightning-flash, the amount of concentrated energies which the smallest particle of living protoplasm⁸ holds must be very great.

When we follow the steps of ascent of living matter from the simple vegetable protoplasm up to its highest eminence in the protoplasm of the human brain, and consider the progressive condensation of energies of which it is the organic climax, it is not so difficult as it looks at first sight to regard human acts and thoughts as effects of regulated discharges of compositions of matter and motion in the many varied elements of Nature's supreme organism. Nobody would think of denying that the food which he eats is converted into bodily strength and energy, but most people, being unfamiliar with minute matter and its forces, deride the idea of its conversion into mental energy, although modern scientific theories of ether-waves give support to this doctrine.

Great importance is usually attached to the difference between living and non-living matter. But this difference is not, in reality, as important as it is made to appear in most popular books. The actual living molecule which is spent in function does not renew itself and live again, any more than the soldier killed in battle comes to life to fight again. Other living matter of the same composition and pattern replaces the disintegrated matter, the repair work being the action of the whole organism by means of the successive manufacturing processes in it through which the non-living substance of food passes to be made living. As a decayed brick in a house-wall is replaced by a manufactured sound brick, so the living organism is repaired by the substitution of a manufactured fresh molecule for the dead one. The living body, while it is a sound whole, effects by its wonderful methods the repair which, in the case of a house, must be done mechanically from outside. In this respect it differs also from the closely-allied case of a damaged crystal of salt which has its injury repaired and form restored in a suitable saline medium by the

⁸ Protoplasm—"the physical basis of life" (Huxley).

deposit of material from without in a mechanical manner. Although there is in both cases a formal restoration of material, there is not that intimate reciprocal interaction between crystal and salt solution that exists between organic molecule and animal or plant. In the former there is plain addition from without by accretion,⁹ in the latter there is addition by transformation of matter and evolution from within through invisible life-making processes. This is unquestionably correct, but it is possible that it is correct only because we cannot observe the infinitesimal processes which occur either from within or from without. Perhaps a closer analogy to life function would be a regiment of soldiers, in which, as individuals disappear by death their places are quickly filled by fresh individuals, and by this procedure losses are regularly repaired, and the existence of the regiment is continued unimpaired. Further, just as the new soldier fit to replace the dead soldier, is not supplied by the regimental body, but enters it from without, to some extent prepared and ready for his place and duties, so the fit material to replace the dead molecule by a living one in every special structure of an organism must be obtained from without, and must then be suitably digested, disposed and molded by the various agencies which co-operate in metabolism,¹⁰ before it can be put into place and serve to continue the life of the whole. A complex organism, like a well-governed city, is the bringing together of a number of special organizations which work in constant and essential relations to maintain vital unity.

If we could trace a particle of food in minute continuity through all the successive changes undergone by it in the intermediate stages which its elements traverse in their progress from non-living matter to life, and understand the series of physical and chemical transformations which take place, the contrast between the extremes of gross dead matter and fine living matter, apparently so abrupt and great, would be very

⁹ Accretion—increase by accession of parts externally.

¹⁰ Metabolism—the sum of the chemical changes within a living body by which protoplasm is renewed, changed, or prepared for excretion.

much lessened. It is, in fact, merely habit, not justified by facts, to make a violent separation between so-called inert matter and active, energized matter; there is very little difference of kind between them. Not only does the visible reaction of a passive body to action upon it imply intrinsic activity, but its capability of being acted upon implies activity in it. The division of substances into living and dead is necessary, but its limitations must be appreciated. On account of the complexities of conditions within the exceedingly minute boundaries of matter, and of the rapidities of the motions which go on within the confines of its form, we are usually unable to picture them in imagination as we can in some degree picture ordinary chemical and physical activities. It is certain that from broken crystal reconstituting its form in a suitable medium, through the simplest living unit, vegetable or animal, which takes matter from without to transform directly into its substance, up to the most complex organism which elaborates nutritive material successively in the various factories through which it is made to pass in its process of vitalization, there is transition, not break, continuity, not interruption, development, not creation. That physical and chemical activities stop abruptly at the edge of a living particle is incredible; that entering it they undergo a change into new and stranger complicated substances is a reasonable and scientific deduction from the facts.

Such orderly transition, however, does not mean that life is no more than physics and chemistry as these sciences are now known to us. On the contrary, correctly viewed it means that the ultimate complex unit of life represents much more than any known activity of physics¹¹ and chemistry.¹² It means that there exists a chemistry and physics of minute particles of matter of which as yet science has discovered extremely little. For the present the term "vital force" serves to denote the

¹¹ Physics—the science which deals with the general phenomena of inorganic nature.

¹² Chemistry—the science which deals with the composition of material things and the changes which they undergo.

unknown processes named. The objection to the use of this term is that it is sometimes used by unscientific writers to signify an entity (existence) not subject to material laws, constituting a sacred and insoluble mystery which it would be impious to probe by scientific methods. As a fact, life will not suffer depreciation and will not cease to be the wonder which it is to its conscious self if it can eventually be linked in unbroken continuity with physics and chemistry.

Vital force sometimes fails in a remarkable degree even when conditions are such as might seem to justify better things, as, for example, when instead of repairing tissue-like muscle with its own substance, it succeeds only in replacing it by inferior fibrous tissue. The phenomena of inflammation—and inflammation is the beginning of many ways to death—present a study of the decline of strong life into weak life and of the latter into death. Whatever line of investigation may be pursued, however, there is not the slightest probability that the mystery of life will be solved within the life-time of any person now living, because the intricacies and complications of Nature far exceed man's powers of penetration and observation. Indeed, nothing can be more foolish than to suppose that the microscope, which, like the telescope, has its limit of vision, will some day reveal the infinitesimal processes at the basis of life. Moreover, so far as past experience is a guide, it is necessary to realize that whenever one veil of Nature is triumphantly raised, it invariably exposes a previously unknown or unexplored field, and nothing approaching first principles.

Having now considered life and death together from the standpoint of living matter, one may also consider them from the standpoint of dead matter. When the attractive forces completely predominate in a chemical substance it is so fixed and stable as to be practically inert, inwardly and outwardly motionless, and, so far as appearances indicate, completely at rest. In a similar manner, although perhaps not in the same degree, when the attractive affinities so predominate in a living molecule as to make it stable and apparently inert, it is then a fixed structure whose life is of a low order, not far removed

from dead matter, and its relation to active, living things is much the same as is the relation of matter in an inert crystalline state to matter in an active colloid¹³ condition. If a complex and unstable substance were in a colloid state, if its constituent molecules were so delicately balanced that the least touch was sufficient to explode them, to discharge energy in the explosion, the result would be destruction of the substance. But if it discharged its energy by minute, measured, and rhythmic explosions, and, reconstituting itself regularly after each explosion, in order to retain its form, the result would then closely resemble the most simple protoplasmic life. Imagine, then, a frame-work of suitable form and necessary exactness and complexity of adapted parts, like the framed structure of a living organism, packed with an unstable compound of colloid character, mobile and full of closely confined energy, yet kept in bounds by structural form, and, in addition, having its succession of minute explosions regulated to perform some definite work; imagine, further, that the impacted substance possessed the power of repairing its waste in a suitable medium—it would then be virtually living protoplasm, a self-feeding mechanism, a form of life. If the machinery by which the numerous internal motions were ruled to serve definite functions were seriously impaired, so that they became mixed in a tumult of disorder, and discharged themselves violently, the effect would not be very much unlike the explosive process which so fearfully shakes the unfortunate victim of epilepsy.

Could the minute workings of a speck of living protoplasm, apparently identical in all its parts, and without fixed form to give definite aim to its energies, be closely watched, little more might be seen in it, in any case not anything much more special in kind, than in the delicately formed and active compositions and decompositions of an unstable chemical colloid, if they were also traceable with equal exactness. If the speck of protoplasm were identical in all its parts (homogeneous) at first, it could not continue in that condition when external surround-

¹³ Colloid—a semi-solid, slowly diffusible, non-transparent, jelly-like substance.

ings opposed its full freedom of movement in all directions, for the opposing forces against which it would strike would necessarily cause changes, external and internal, of its plastic (easily molded) substance, and these changes, if kept up by the conditions of the environment, would determine lines of direction of internal forces, which would eventually produce structural alterations of form. It would grow to its circumstances, as is characteristic of all life, and later its structure would harden by degrees so that plastic life would be obstructed and eventually stopped. As to power of self-repair, that need not count for much, as a difference between living and non-living matter, for the former always requires a suitable medium for the purpose, and in an unsuitable medium suffers either a suspension or an extinction of life. When this speck of life becomes apparently lifeless, remaining so for perhaps a thousand years, as may easily be the case with some micro-organisms when frozen, for no producible amount of cold kills microbic life, its activities are then hardly superior to those of dead matter, into which by a little further deadening they insensibly merge.

All inanimate substances owe their various powers of reaction, when acted upon, to activities within them, latent when not apparent; and the properties with which they affect other substance are necessarily their acts. Suspended or insensible motions with preservation of form are common to animate and inanimate matter, and can, in both cases, be quickened by suitable external stimuli. As the frozen energies of ice are released by heat, so are the suspended energies of living matter, especially those of micro-organisms, unloosened by heat and moisture.

Life and death being neither separate nor separable conceptions ought not to be placed opposite one another as if they belonged to distinct categories of thought and existence, for death is a constant and necessary part of the process of life, and life is a constant and necessary part of our conception of death. (In man, this refers to normal or physiological death from old age, which is very uncommon. Death from disease, which is, unfortunately, the usual condition, is by no means

necessary, and is very often due to insufficient knowledge of the laws of health or to neglect of them).

Life viewed in the abstract as a constant entity is no more than a general term employed to include countless particular lives of diverse degrees and qualities according to the various structures, simple and complex, which subserve and condition it. The life of a brain-cell is one thing, the life of a blood-cell or an epidermic¹⁴ cell is another thing; the life of any element of fixed structure is very different in quality from that of an active element of protoplasm. Of a still lower dignity than any animal life, lowest type of all, nearest to inanimate activity, is the life of a micro-organism—vegetable life.¹⁵ It is true, however, that the lowest forms of animal life are so much like plant life, both being microscopic specks of jelly, that it is not always possible to say positively which specimens are animal and which must be classed as vegetable.

The abstract idea of life as an entity of fixed quantity and quality, something existing, separate from non-living matter, has been for very many years, and still is an obstacle to a true conception of its concrete character. The name sanctioned by authority and custom seems to have governed the facts, in place of the facts governing the name.

Scientific observation of vital processes in all their varieties, degrees and periods shows plainly that they obey the law of conservation of matter and energy which reigns throughout Nature. Nothing is ever created out of nothing; nothing is ever destroyed absolutely. Everywhere that which disappears in one form reappears in another form—torn, twisted, compressed, rarefied or triturated (pulverized), it may be—but beneath many transformations, the substance always exists. To speak of life in any of its manifestations as self-creating and self-acting is hardly more rational than it would be to speak of a self-creating and self-acting loco-

¹⁴ Epidermis—the outer layer of the skin.

¹⁵ An essential difference between most animals and plants is that the former inhale oxygen and exhale carbon dioxide, while the reverse is the usual process with plants.

motive; it would be as if one viewed the mechanism as a separate and self-acting body without taking thought of the long and tedious antecedent processes of its formation now incorporated in its structure, of the mind-powers which it represents, and of the necessary external supplies and conditions of its function.

The word "irritability" is used to describe that property of muscular protoplasm by which it reacts to an irritation or stimulus. To stimulate is, of course, to excite action. Living element usually behaves as if it felt the applied stimulus and responded to it, but it is not thought right to attribute feeling to low forms of life which are not supposed to be conscious. It would therefore not be considered scientifically accurate to ascribe feeling to any single-celled animal which reacts to a stimulus, although it gives all the signs which would indicate feeling if it were regarded as conscious. The reason why the lowest forms of animal life are not considered conscious is that they do not possess the mechanism which investigation has shown to be the physical basis of consciousness. In face of a process of impressibility and reaction, which, on the one hand, is not high enough to rise to a conscious plane, and, on the other hand, is too high to be classed as purely physical, the custom is to place it in a category of its own, and to give it a special name. This is the usual device of making a separation in Nature although close union reigns everywhere. While this procedure is necessary for purposes of general thought, it is, nevertheless, often productive of wrong ideas. When a particular adaptive act is done consciously, and can be done with the same ease and precision unconsciously, the right conclusion is not that the processes are different in character, but that consciousness is not a necessary part of the process. Sympathy of parts in response to a stimulus and unity of reaction by the whole animal can and do take place without even conscious feeling. Organic affinity, or sympathy of parts is the basis of consciousness, that is, co-operation of the several parts of the animal body for a certain purpose brings about a sympathy of feeling among them (consensus), and this is a step on the way

to co-feeling or consentience,¹⁶ which, again, in higher forms of life, becomes consciousness. The progressive development of life means a complication of structure by which the relations of many parts to each other are multiplied and rise to the highest and most complicated expression, that is cognoscence, which is merely another name for consciousness.

Whatever the conscious element in a vital reaction may be, and wherever in the scale of life it first faintly dawns, it unquestionably develops insensibly and progressively from unconscious reaction. It is a mystery, no doubt, but no more of a mystery than that of vital or any other energy, or of the transformation of one form of energy into another, all of which are accepted scientific facts.

Everything in or on our planet naturally resists, passively or actively, its undoing, that is injury, or being broken up, and living matter resists most actively. Its nature is to exist and grow in suitable conditions for its ordained period, and its reactions are rightly described in words different from those which are applied to chemical reactions. Attraction or affinity becomes active liking or desire—it selects that which, being agreeable, it can assimilate and so use for its maintenance and growth; indifference or incompatibility becomes dislike or repulsion. Living matter shuns or rejects that which it cannot assimilate, and which, being disagreeable, it can make no use of, or is hurt by. This is the fundamental motive of all living things, high or low. The organic element reacting to embrace the fit and repel the unfit stimulus, no more makes a spontaneous¹⁷ choice than one chemical element does of another in order to form a compound, or than a sunflower does when, responding to the action of the sun, it turns toward it. The reaction is not something spontaneous within the organic substance which occurs before the movement to determine it, but is simply the physical reaction of the specially constituted matter to the special stimulus suited to act upon it.

¹⁶ A non-technical definition of consentience would be imperfect or undeveloped consciousness.

¹⁷ Spontaneous—arising without external cause.

From lowest organic irritability to highest organic reaction there is continuity of natural process—neither break nor pause in the ascent from monad to man. Whatever may be the superior agency at work in the highest, nervous processes, the basis is physical reaction—that which is irritability in muscular substance becomes excitability in nervous substance. When a nerve is stimulated there is a constant succession of events—a nervous energy of some kind is excited, and this energy travels as a wave or current along a nervous track to its terminals, to expend itself there in work of some kind. Simple reflex action is just such process along suitably fashioned structure. The work of an eyelid, for example, is as direct an effect of the special nervous system involved as any stroke which does its special work in a physical machine.

Brains are not simple and uniform in constitution, but differ much in complexity and quality of structure, and as all questions have a number of aspects, it follows that an impression which elicits little or no reflection in one brain excites wide reflection in another, and different reflections in different brains. Questions are never absolutely identical to any two minds because methods of perception, feeling, thought and judgment are as numerous as the minds. When we say that one mind thinks differently from another on some subject—that, for example, a botanist's view of a tree is unlike the view of most farmers of the same tree—we mean, in reality, that the structure of the botanist's mind in relation to the tree differs from that of the other men in mode of formation by nature, training, or information. The special reflection is the natural function of the special structure. (The subject of mind is discussed at length in the chapter on "The Brain and Mind").

If the human body, like every other organism, is a complex mechanism adapted to generate and framed to store force when suitably supplied with nutritive fuel, and afterward to distribute and use it in many ways, a natural question is: What are the working forces which prompt and sustain its actions? They are two—the instinct to maintain life, and the reproduc-

tive instinct—to propagate and perpetuate life. These are the two deep sources of motive energy from which all feelings and actions spring. They depend not on reason, but go before it—are rudimentary.

Physiologically the self-preservation instinct is served by the internal organs known as viscera,¹⁸ harmonized by the nervous system, called splanchnic,¹⁹ to co-operate in unity of function; the propagative instinct is served specially by the reproductive organs, which not only serve their particular function, but, in addition, play their part in the unity of the entire body. Had the animal organism been fixed to one spot like a tree, and able to obtain nourishment as is done by that form of plant life, a similar organic system to that possessed by trees might have been sufficient; no further mechanism would have been needed to maintain and propagate the individual. But as the animal was compelled to move about to get its food, another system of organic mechanism was added for the purpose—a locomotor system—a method of self-movement—to act as means and instrument for the gratification of fundamental instincts. From the last-named there arose a concurrent need—the need of a special nervous system, the so-called cerebro-spinal, to direct the instruments or members serving subordinately in the life of active relation with the external world. While each of these nervous systems has its special duty, the two are by no means separate and independent. Indeed, it is difficult to understand how they could be in one body, itself an organic whole, in which every part, mutually related, works in the whole and the whole in every part. Intermixed throughout, they are in vital relations, through a central nervous system of brain and spinal cord, representing a complex organization of fine plexuses (net-works), with nerves from every part of the body, known as afferent, and nerves to every part, called efferent. Every portion of the body is represented in the

18 Viscera—the organs contained in the great cavities of the body. In this case those in the abdomen are specially referred to.

19 Splanchnic—pertaining to the viscera. There are three splanchnic nerves, and they connect the sympathetic nervous system with some of the abdominal organs.

central nervous system, and by it all parts are kept in harmonious action and unity of function. On the one hand, then, stands the organic system serving the life of feeling, and linking man to the Nature which was and is; on the other hand, is the motor system which, serving the life of external relations, is the means and instrument through him of life that will succeed his; and between the two is the messenger-like cerebro-spinal system, acting the part of a mediator, partaking of the two different characters, and sub-serving their mutual interaction.

This inter-relation between the organic system and the motor system suggests, and the cerebro-spinal basis brings into the supreme nervous centers an intellectual mechanism to supply the necessary apparatus for the formation of ideas and their associations. The increasing specialty and complexity of the individual's relations with the external world are accompanied by a corresponding specialization and complexity of the living machinery, which embodies in its structure and displays in its functions multiplying relations of impressions characterized by sensations, and motor reactions adjusted to the environment. The result of these processes, which are most difficult to explain, is conscious reason, which is the effect, and exponent of them. Neither this intellectual system nor the motor system, however, furnishes the motive impulses of action. These spring from the organic life and provide the energy which is guided and ruled by the understanding through paths of reflection—through suitably formed reflexes²⁰ of the cerebrum (large part of the brain) which mental reflections introduce. The idea is impotent to act, it has no motive force in it; it is simply the form, clear or obscure, through which feeling works to its end. Obviously force and form ought to co-operate in full and exact adaption to accomplish the best result. The force of desire ought to find its regulation in the intellectual mechanism, and that mechanism ought to be adapted to use the

²⁰ Reflex—when used as a substantive means some act produced by stimulus or excitation without intervention of consciousness.

force functionally in the most satisfactory manner and with the least waste. No machine can "run" well unless it has adequate motive force to make it "run," and it is a poor machine in which, as in many human machines, a large proportion of the force is wasted in working. How seldom in human life is found an accurate proportion of force and mechanism, the right proportion of feeling to intellect in the brain! And how many miseries, mistakes, failures and calamities must be attributed to their disproportion.

Mature reflection upon the structure and functions of the human body, if not prejudiced by preconceived opinion, of its perfect construction, may justify the conclusion that the process of organic evolution has much to do before perfection is reached in Nature's highest work.

CHAPTER XV.

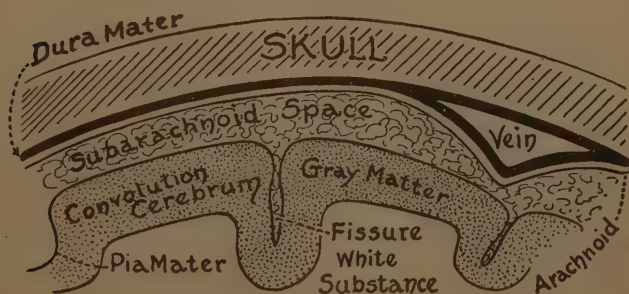
THE BRAIN AND MIND.

This chapter must necessarily commence with an attempt to determine with as much precision as possible what is meant by the word "mind."

To begin with, mind, viewed in a scientific sense as a natural force, cannot be observed, handled, or dealt with as a palpable object. Like electricity, or gravity, or any of the other natural forces, it is appreciable only in the changes of matter, which constitute evidence of its existence. Each display of mental power is accompanied by some change in some part of the nervous elements of the brain. In other words, every action of the mind is the result of some alteration, physical or chemical, in that complicated mechanism which guides human intelligence. Mental power is an organized result, not, strictly speaking, built up, but matured and developed by slow degrees during life. The brain is not, like the liver, heart and other internal organs, capable from the moment of birth of all the functions which it ever discharges; for while in common with them, it has certain duties for the exercise of which it is especially intended, its high character in man, as the organ of conscious life, the supreme instrument of his relations with the rest of nature, is developed only by a long and patient training. Its functions are completed in the individual, as they have been built up in the race, by the gradual effects of experience. If we are inclined to feel surprise that so great a result can be brought about in the individual in so short a time, we shall do well to reflect upon—first, the rich inheritance of other men's labor, the vast experiments in the laboratory of nature

through which his brain has passed; and, secondly, the great amount of human work and energy which is concentrated in what we call education—that is, in the methods and appliances which are used in the training of every normal child. These numerous methods and appliances, simple as they may seem, represent the ultimate acquisition of very many years of human struggle. Even the language which is taught embodies the gains of countless ages of progressive adjustment of the human

Fig. 66.



SECTION OF HEAD FROM FRONT.

Beneath the skull and above the brain are three membranes and a space. They are the dura mater, next the arachnoid membrane, then the space called subarachnoid, then the membranous pia mater. The subarachnoid space contains a liquid, known as cerebro-spinal fluid.

organism to its environment. Though the brain, then, is formed prior to birth, its highest development only takes place after birth; and the same gradual progress which is exhibited in the growth of the organ is also witnessed in the increase of our intelligence.

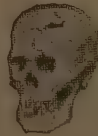
It must, however, be distinctly understood, that mental action is as surely dependent on the nervous structure and its adequate supply of suitable blood as the action of the liver is on its structure and its blood supply. That is the fundamental principle upon which the mental science of to-day rests. The nerve-cells which form so great a part of the delicate structure of the brain are undoubtedly the centers of its activity. We know, as the result of experiments, that the nerve-cells scattered through the tissues of organs, as for example through the walls of the intestines and the structure of the heart, are

centers of nerve force aiding in their action; and we may confidently infer that the cells of the brain, or at any rate some of

Fig. 67.



A



B

THE FAMOUS CROWBAR CASE.

Introduced to show how a large portion of the brain may be destroyed, provided it is not a vital centre, without materially affecting the intelligence or the health.

The comparative size of the crowbar and the skull is shown.

The crowbar was shot upward through the patient's eye and skull, coming out through the top of the head, behind the forehead.

See Fig. B. Fig. A shows point of exit.

them, which are not amenable to observation and experiment, have similar action or function.

Certain compounds found in organic substances, and known as extractives, testify to change as a consequence of use (functional activity) of the brain, and associated with their use are various acids similar to those existing in muscle after its activity. In the performance of an idea, as in the performance of a movement, there is what may be called a step backward on the part of that portion of the body which is employed. Expressed in scientific language which is much more exact than the words just used, there is a "retrograde meta-

morphosis of organic element." The display of energy is at the expense of highly organized parts of the body, and these undergo degeneration; and the final products are, so far as is known, somewhat similar in muscle and nerve. Without the

burning-up process, known as oxidation, which produces force and energy, we can no more have thought from brain than we can have flame from fuel.

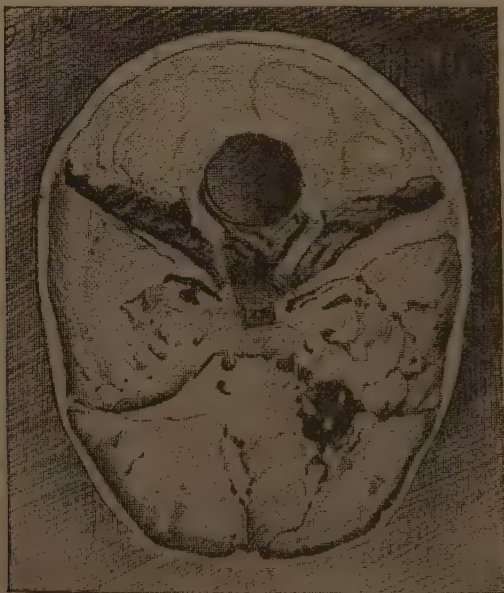
While the contents of nerves are neither acid nor alkaline, but neutral during rest in the living state, they become acid after death, and after great activity during life. The same condition exists in regard to muscle. Further, after prolonged, mental exercise, the products of the disintegration of nerve element, into the composition of which phosphorus enters largely, may sometimes be recognized by an increase of phosphates in the urine. It is only by supposing thought to be accompanied by change in the nerve-cells that we can explain the exhaustion following excessive mental work, and the breaking down of the brain in very extreme cases.

The locomotive is a complicated mechanism, of the construction and mode of action of which many people know very little, but it performs very definite duties, and those who know almost nothing of its construction, have nevertheless, a clear idea of what it accomplishes. The action of the locomotive as a whole is very different from the action of any part of it. But the working of the locomotive is dependent on the mechanism, and on the combined action of all parts, as well as on the supply of suitable fuel, and cannot be separated from these. Indeed, although the working, or function, of the locomotive may exist as a conception of our minds, it has no real existence aside from the various parts of the mechanism and the coal or other fuel. By observation of the working parts of a locomotive, aided by a certain amount of reasoning, we get the essential idea of what constitutes the machine to which the name locomotive has been applied. The process referred to gives us, in fact, a fundamental impression of the detailed principles of its possible uses as a piece of machinery.

Very much the same condition exists in regard to the numerous phenomena of mind. By observation of them, and by adding together the facts which we have learned, we arrive at a general conception or essential idea of what is meant by the word "mind." Because we can form this general conception of mind, it does not follow that mind can exist apart from the complex organization of the brain and its suitable blood supply; there is no scientific justification for such a

conclusion. In consequence, however, of the powerful tendency on the part of the human intellect to make the reality conform to the idea, the general conception of mind has been converted into a distinct entity, and has been allowed to create a wrong

Fig. 68.



C

CROWBAR CASE.

Figure *C* is a photograph taken of the portion of skull upon which the brain rests. The ragged rent just over and behind the bony socket of the eye is shown. The patient made a good recovery and lived for years—with no noticeable change in a moderate mentality.

impression. Whatever may be the real character of mind—and concerning that it is as useless to speculate as concerning the real nature of electricity or gravitation—it is unquestionably dependent for its manifestations upon the brain and the nervous system.

The component parts of the brain are not inexhaustible centers of self-creating force; they give out no more than what they have in one way or another taken in; they receive

material from the blood, and make it of the same kind as themselves—that is, they assimilate it. A transformation of energy necessarily goes along with this upward alteration of matter.

In mental science, certain propositions may be regarded as established beyond any reasonable doubt. There are at least five of them. Disregarding all technical terms, as is desirable in an article of this kind, they may be described in the following words: When a thought occurs in the mind, there necessarily occurs a change in the so-called grey matter of the brain, that grey matter being the part of the brain which is responsible for mental activity. Without that change, the thought could not arise, and with it a thought cannot fail to arise. The change referred to consists of a movement of some kind, which, with our present imperfect knowledge cannot be defined. The nearest resemblance to it is probably found in the compounds of vibrations in music. At any rate this analogy, defective as it may be, will help us to get a general idea of what takes place. The movements referred to have sometimes been called material ideas. (These have been divided into *object-presentative* and *representative* according as they are excited from without or from within. They are determined in direction by the established nerve-paths—the fibers and the connections of cells. This is somewhat technical, but as it forms an explanation of what has preceded it cannot be omitted). The movement referred to above takes time, sometimes longer, sometimes shorter, but is always an appreciable period. It requires a regular supply of suitably constituted blood. It is arrested or prevented by an interruption of the continuity of nerve, or by slight modifications of its structure, as by pressure, or by compression of the brain. The movements are interfered with and finally stopped by the exhaustion produced by frequent or prolonged exercise without the necessary intervals of rest.

The reader should now have a fairly accurate idea of what is meant by the word “mind.” In the lowest forms of animal life, nerve does not exist: the most simple beings known as protozoa are, so far as can be ascertained, destitute of any trace of nervous system. They consist of an apparently uniform substance, identical in all its parts, that is homogeneous, and all functions are carried out without special organs. These

minute animals are nourished without a special digestive system; they breathe without lungs or any substitute for lungs; they feel and move without organs of sense, without muscles, without nervous system. The stimulus (exciting action) which the little creature receives from without produces some change in the relations of the component parts of its body, and these imperceptible movements seem to amount collectively to the perceptible movement which it makes. But it must be understood that even the simplest creatures which do not appear to have any indication of the elements of a nervous system do not move in a vague, confused and indefinite manner. They present indications of adaption to functional ends; they show, in fact, the fundamental property of living matter, namely, motion in direct response to impression.

With differentiation of tissue and increasing complexity of organization which are met with as we ascend in the animal kingdom, the nervous tissue appears, but at first

Fig. 69.



Division of a nerve, showing a portion of a nervous trunk (*a*) and separation of its filaments (*b*, *c*, *d*, *e*.)

in a very simple form. The simplest type is represented by two fibers which are connected by nerve-cells; these fibers appear to be simple conductors, and may be roughly compared to the conducting wires of a telegraph apparatus, while the cell (*d*) being the center in which nerve-force is generated, may be compared to the apparatus itself. This type of structure is repeated throughout the complex nervous systems of all the higher animals—the fibers with their junction cells form units from the multiplication and complex arrangement of which the most intricate nervous structures are built up. Owing to the different kinds of tissue and to the specialization of organs in the more complex animals, there cannot be that intimate connection between all parts which

there is in the homogenous (consisting of similar material) substance of the simplest form of animal life. The easy motion, as from particle to particle, not unlike an infection, where the substance is of the same kind, cannot take place in a heterogeneous body, that is, where the essential elements are unlike. Accordingly, special provision is required for insuring communication between different parts, and for

harmonizing the activity of different organs. The animal must be made capable of associating a number of distinct actions for definite ends. This function, necessitated by physiological division of labor, is aided by the nervous system; and we might compare it to that which a gifted popular teacher fulfills in everyday life. He grasps the details of the various

Fig. 70.



VIEW OF THE BRAIN

Showing where the two halves lie against each other to show centres of vision and that presiding over the leg.

investigations which a necessary division of labor enforces, and elaborates a result in which the different lines of thought are put together, and a unity of action is marked out for future progress. The nervous system effects the building-up process (synthesis) which the specialization of living instruments in the analysis of nature makes essential. To this function the nervous system is well adapted, first, by the extent of its distribution, and, secondly, by its extreme sensitiveness by which an impression made at one point is very quickly felt at a distance from the place where it was made.

With augmented complexity of organization which marks

the increasing adaption of living structures to external nature, or, in other words, which marks an ascent in the scale of animal life, there is a progressive complication of the nervous system: specific developments providing for special purposes take place. With the appearance of the organs of the various senses, as we advance in the scale of animal life, there is a corresponding increase in the aggregations of nerve centers, known as ganglions, which, being clustered together, form the primitive rudiments of a brain.

It is not known with any degree of certainty when the different organs of the special senses make their first appearance; they are at first of a very simple character, and are clearly modifications from the most general sense of all animals, that of touch. The skin is an organ of sense which extends over the outside of the body, and perceives by actual contact with the objects that affect it; the other senses may be nothing more than different forms, what in technical language would be called differentiated involutions, in which complicated cuticular (skin-like) structures, placed more or less within

Fig. 71.



the body, perceive without actual contact. However this may be, touch must be considered the fundamental sense, that which is the mother of knowledge. In some of the lower creatures the organs of hearing, smell and taste are undoubtedly modifications of certain portions of the covering of the body, and even the organ of sight, when it appears in its earliest and simplest form, is nothing more than the termination of a nerve, surrounded by a few specks of color in a fold or recess of the skin. Even in

amphioxus, the lowest form of life possessing a backbone—a small marine animal of worm-like appearance—the only vestiges of eyes are a couple of pigment spots, the organ of smell is a cup-shaped depression in the fore end of the body, and, to the best of the writer's knowledge, no organ of hearing

has ever been discovered. As we ascend in the animal world, structures adapted to the reception of particular impressions, as of light, sound and touch, become more special, and make the higher animal capable of more numerous, and complex relations with external nature.

Not until we arrive at the fishes do we discover anything more of the character of a true brain. Below the fishes there is no trace of cerebral hemispheres—two large semi-egg-shaped masses forming the cerebrum. The cerebrum is the upper and anterior portion of the brain, the cerebellum being the part below and behind the cerebrum.

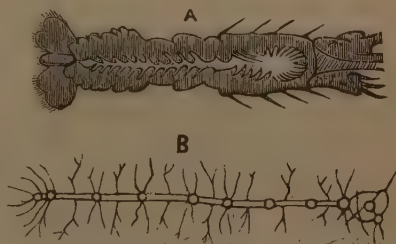
It is evident, then, that cerebral hemispheres are not essential to sensation, or to the

reaction to sensation, for they are entirely absent where both these functions are displayed in a lively and vigorous manner.

Ought we to attribute consciousness at all to the sensibility or susceptibility of creatures which have no nervous system? An impression upon one of them certainly produces a definite effect which results in a definite movement, either to avoid the consequence of the impression, if injurious, or to embrace it, if profitable; but is there any justification for asserting that consciousness has any part in these events? The phenomena of our own lives point in the opposite direction. For example, a man in good health is not conscious of the possession of a liver, yet that organ sometimes produces a marked effect upon his mental condition if he eats more food that he can easily digest. If we attribute consciousness to the sensibility of the lowest nerveless animals, can we deny it to certain non-living things—to sulphuric acid, for instance, which, chemists tell us, has such a decided affinity for barium that it displaces nitric acid from its combination with that metal?

In fishes the rudiments of cerebral hemispheres are repre-

Fig. 72.



A. Nervous system of a Crab, showing its ganglia. B. The nervous system of a Caterpillar.

sented by a thin layer or projection of nerve material; in the amphibia (animals which can live both in water and on land) this layer is somewhat larger than in fish; in birds it is still further increased; in mammals (creatures which suckle their young), the hemispheres of the brain are comparatively large, and as we ascend in the animal world, we find that they gradually extend backward until, in man and in some of the higher apes, they entirely cover the cerebellum.

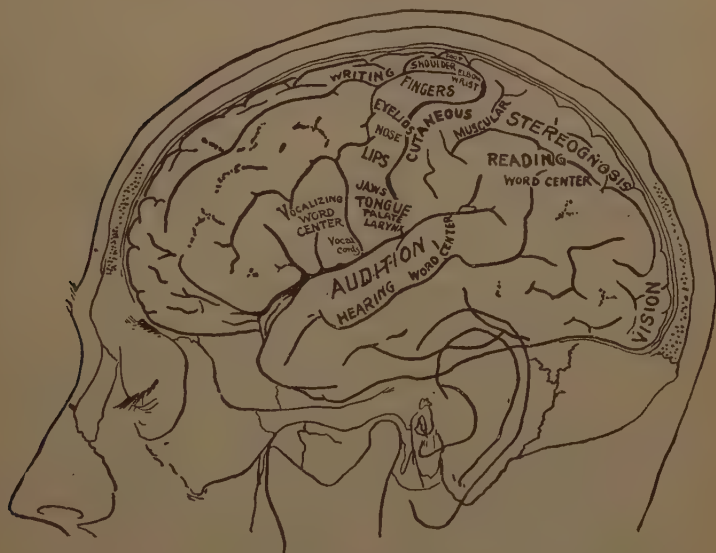
In fish we come upon the first distinct appearance of simple ideas, and of the lowest beginnings of emotion. Some fish, such as carp, will collect to be fed at the sound of a bell, a fact which gives evidence of the association of two simple ideas; and some sharks, suspicions of danger, will avoid a baited hook. In birds, in accord with the increased development of the hemispheres, the manifestations of intelligence are much greater. The tricks which some of them can be taught are remarkable, and those who teach them have often described how different birds differ in intelligence and in temper. Some people look upon such performance as marvelous, because they have a fixed idea that all manifestations of intelligence in animals below ourselves in the scale of life are surprising. If we keep in mind the fundamental plastic property of nerve element by which it receives impressions and grows to its methods of exercise, we may not feel so much surprise, and we may have reason to think that some animals might be made capable of much greater display of intelligence if we selected for breeding purposes only those which show intelligence above the average, and educated these in a rational manner. Simple emotional exhibitions are observable among birds. Indeed, at times the feeling of rivalry or jealousy among canaries is very evident, and some writers on birds mention instances in which an orphan bird has owed its life to the care of birds of a different species.

In mammals a gradual advance of intelligence may be traced from very humble manifestations up to those higher forms of brute reason which differ only in degree from the lowest forms of human intelligence. Consider how deeply meditative the elephant sometimes shows itself; how well versed in cunning schemes the monkey is; how plainly in the dog an inhibitory (restraining) conception often intervenes

between the sensation and the usual respondent movement, so that the animal refrains from doing what it has a strong impulse to do, the impression having been passed on to the hemispheres and their controlling action brought into play.

As we ascend through the mammals, we find that not only do the hemispheres increase in size by gradually extending backward, but the grey surface of them is further increased

Fig. 73.



LEFT HALF OF THE BRAIN.

Showing centres of gray cells massed in localities and presiding over special functions.

by being thrown into folds known as convolutions. While some mammals are entirely destitute of such convolutions, these are present, as a rule, in the ruminating animals (those which remasticate their food), and in the carnivora (animals which live on flesh). They are much more developed in the marine mammals, such as the whale, which is a true mammal and not a fish. They are, of course, most fully developed in the apes and in man. It is quite true that, at present, science does not enable us to put forward an exact relation between the develop-

ment of the convolutions and the degree of intelligence in different animals, for the brains of the ass, cow and sheep, beasts that show comparatively little intelligence, are more convoluted than are those of the cat and dog, which certainly display considerable intelligence. But the relative size of the animals must be taken into account in such comparison. The volume of a body, such as the brain, which increases in size with the size of the particular animal which is being examined,

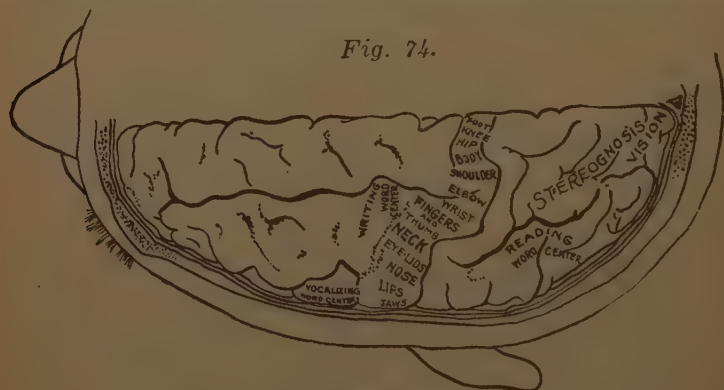


Fig. 74.

LOCALIZATION CENTRES.

One-half of the brain viewed from above. Certain portions are indicated to show the centres which contain collections of cells that have definite control of certain functions, members of the body, muscular action or sensation.

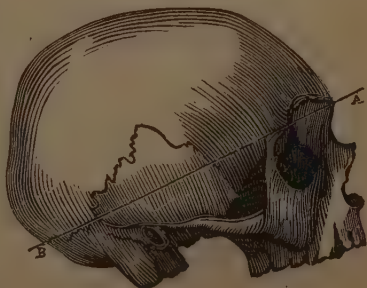
In local disease of the brain, affection of these functions points to the locality of the diseased process.

increases in greater proportion than the surface, and the latter in greater proportion than the diameter. In each order of mammals, the head, but especially the capacity of the skull, bears a certain ratio to the body, a ratio which remains fairly constant in different species. The head of the lion or tiger has about the same proportion to the body as that of the cat's head to its body, although the body weights of the animals are very different. It follows then that, as the volume of the brain of the tiger in relation to the size of the body is about the same as in the cat, and as the larger the brain the smaller the relative surface, the surface of the brain is proportionately greater in the cat; and that, consequently, in order to get a proportionate extent of grey surface in the tiger, this must be

convoluted in that animal, when it may remain nearly smooth in the smaller animal. If in two animals of equal size, and of similar form of structure, the convolutions are differently fashioned, then it may be correctly asserted that one will be more intelligent than the other in proportion as its convolutions are more numerous and complicated and the sulci (grooves) deeper. Comparing the brains of different breeds of dogs or of varieties of anthropoid (manlike) apes, it is practically certain that the more intelligent breeds and varieties have larger and more convoluted hemispheres, always provided that other matters, such as, with dogs, selective breeding with a view to intelligence, are equal.

The same proposition—that the more intelligent races of men have larger and more convoluted brains—is true. The Bosjesmans are a South African people, very short in stature, with skin a dirty yellow in color. Their brains have often been described, the first and most elaborate examination of the brain hemispheres of one of them having been made by the celebrated French anatomist, Louis Pierre Gratiolet, more than forty years ago. What is most striking in the Bosjesman's brain is the simplicity and regular arrangement of the convolutions of the frontal lobe; they always present an almost perfect symmetry in the two hemispheres, such as is not found in the normal brains of white men. This symmetry, when seen by an experienced anatomist, involuntarily recalls the regularity and symmetry of the cerebral convolutions of the lower animals. Gratiolet's opinion was that the brain of a Bosjesman could be compared only with that of a white person who was idiotic from arrest of cerebral development. Further, the differences between it and the normal Caucasian (white man's) brain are unquestionably of the same kind as those which exist between the ape's brain and that of man. They are, of course, much less in

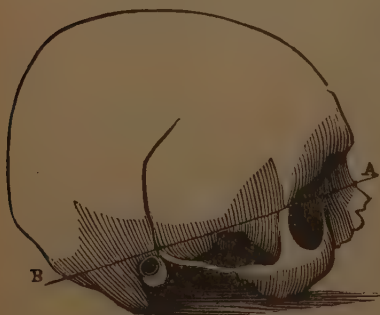
Fig. 75.



Skull of murderer Lopez.

degree. The Bosjesman (or Bushman) brain shows marked evidence of structural inferiority; the primary convolutions, though all present, are smaller than in the average Frenchman, and are much less complicated; the external connecting convolutions are still more remarkably defective. In size and in all signs of comparative inferiority, the hemispheres of the South African Bosjesman's brain resemble

Fig. 76.



Skull of Feeble Invalid.

those of the highest apes, or those of an abnormal (idiotic) white man. The brain of the negro is superior to that of the people mentioned above, but it does not reach the level of the white man's brain, even in average weight, which, in Americans is said to be 52 oz., while in Europeans it is given as 49½ oz. These weights are those of male brains. The average female brain weighs about five ounces less, probably be-

cause the body weight of the average woman is less than that of an average man. The negro brain somewhat resembles that of the orang-outang in narrowness of the hemispheres in front and greater symmetry of the convolutions.

Among white men it has been found that, other circumstances being alike, the size of the brain bears a general relation to the mental power of the individual, although apparent exceptions to this rule no doubt occur. It is said that the brains of some men distinguished for mental capacity averaged more than 54 oz., but as the body weights of these men never appear, their average brain weight conveys little information. The brain of Cuvier, the celebrated French anatomist, is often quoted as 64 oz., which seems very heavy. Cuvier, however, may have been an exceptionally large man. In Buffalo, N. Y., there is a successful lawyer and ex-judge, whose usual body weight is very close to three hundred pounds. In the same city lives a prominent physician who for a number of years has had an extensive general practice, and whose body weight is

seldom more than one hundred and seventeen pounds. To compare the brain weights of these two gentlemen without taking their body weights into consideration would be unjustifiable. In fact, most comparisons of this character are fallacious, and should be avoided.

The brain is sometimes very small in idiots, and the parts are much less complex than in the normal individual, the convolutions being simple and poorly developed. The brains of some idiots resemble those of the baboon. There are brains of microcephalic idiots (those having unusually small skulls), which present a complete series of stages in a gradual descent from man to the anthropoid apes, which, of course, are not man's ancestors, but are his nearest relatives in the lower animal world, a fact which must be obvious to anybody who will compare the human skeleton with that of gibbon, chimpanzee, or gorilla.

As a general assertion, it is certainly true that we find evidence of a correspondence between the development of the cerebral hemispheres and of mental capacity when we examine the different races of men, just as we do when we investigate the intelligence of the animal world below man. But in making comparisons between the brains of men in the same state of civilization we must not forget that quality must be taken into account as well as quantity. The thickness of the grey matter of the brain is of importance, and, in addition, it is quite probable that the number of vibrations in the nerve-tracts of the hemispheres may in some instances convert a man with ordinary intellectual power, so far as size and weight of brain, and extent of grey matter are concerned, into a man of great ability. Evidence upon this point, is neither abundant nor satisfactory, yet it is true that some persons who have not been remarkable for mental capacity have been known to exhibit surprising sparks of intelligence at the beginning of an attack of acute insanity, and demented individuals have temporarily recovered their intelligence in an unexpected manner during the excitement caused by their high temperature while seriously sick.

Phrenology is the theory that the configuration of the skull corresponds closely with that of the brain, and that mental characteristics are recorded upon the outer surface of the skull.

Scalp charts showing thirty or forty areas are familiar to most people. Each area is supposed to be associated with a special faculty.

As a pretension to science, phrenology is related to physiological psychology as alchemy is to chemistry. Nevertheless, for a time it served a useful purpose in stimulating investigation of the functions of the brain. In the light of modern knowledge, however, its teaching has ceased to be of value. The mind is not a bundle of faculties; its component parts are determined by the contributions of its sense-organs to its structure rather than by the types of activity by which the psychological self seems to acquire knowledge; the grey matter of the surface of the brain is not mapped out into areas which correspond with "affective propensities," such as spirituality, amateness, etc.; the skull does not accurately represent the contour of the brain surface, for the thickness of the former varies in different persons and in different localities in the same person; prominences on the surface of the skull do not necessarily indicate greater size in the part of the brain beneath; a considerable part of the grey matter of the brain—at least one-half—is concealed in the grooves (sulci); loss of portions of the brain by accident or disease destroys or injures the motor functions connected with some sense department, not some faculty; finally, the whole structure of phrenology falls as a result of investigation of the cortex of the brain by electrical stimulation, anthropoid apes being used for the experiments. The centers for movements of one side of the body are on the opposite side of the brain. The right hand, for example, is guided by the left hemisphere. Areas of the grey brain covering necessary for voluntary movement have been mapped out for certain muscle groups, such as those for the head, arm, eyes, leg, etc.

As in the many productions of her creative art nature has made no violent leap, but has passed in gentle gradations from one species to another, and from the highest animal to the lowest man, it is not surprising that the embryonic development of man (that which occurs before birth), should present indications of the general plan. There is no doubt that man in the course of his development passes through stages closely resembling those through which other vertebrate (back-boned)

animals pass, and that these transitory conditions in him are not unlike the forms that are permanent in the lower animals.

In a few words, man in the course of his life history (technically called ontogeny), is a recapitulation of the history of the race (technically known by the word phylogeny).

There is a very close resemblance between the human ovum and some of the very low forms of animal life (sporozoa). In both an outer membrane contains a soft, semi-fluid substance, at one end of which is a delicate vesicle enclosing a solid particle or spot. In the earliest stages, no investigator has yet succeeded in distinguishing the human ovum from that of a quadruped (any animal with four feet). Even when examined with the highest microscopic power and the greatest care, no man can tell whether it will develop into a second Shakespeare or into a dog. As it proceeds to its destined end, it passes through stages similar to those through which other vertebrate embryos pass. (Embryo is the germ or rudimentary form of an animal or plant).

That which is true of the whole body is true also of the development of the brain. The brain of the human embryo at about the sixth week after fertilization may be described in general terms as consisting of a series of vesicles (sacs), the foremost of which, a double one, representing the cerebrum, is the smallest, and the hindmost, representing the cerebellum, is the largest. In front of the latter is the vesicle of

Fig. 77.



THE CRANIAL NERVES.

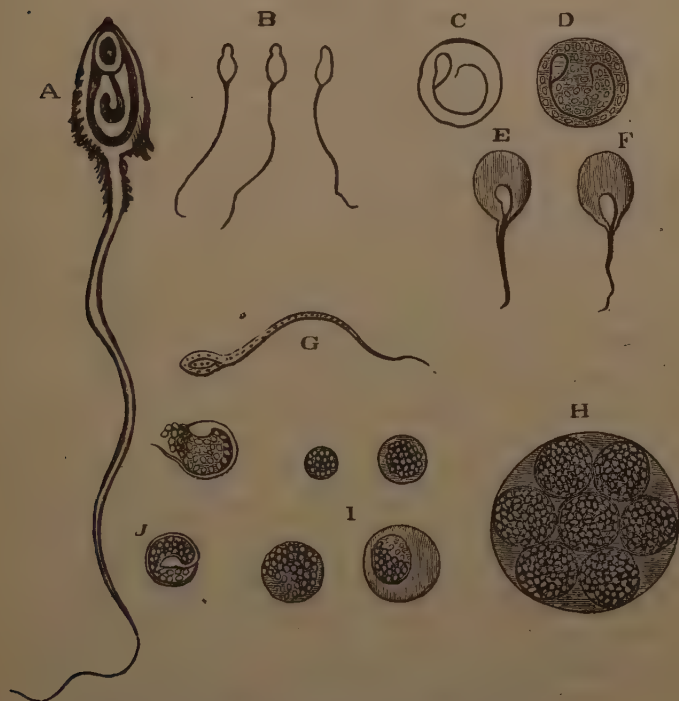
Section of the brain and an ideal view of the pneumogastric nerve on one side, with its branches. *a.* Vertical section of the cerebrum. *b.* Section of the cerebellum. *c.* Corpus callosum. *d.* Lower section of medulla oblongata. Above *d.* origin of the pneumogastric nerve. 1. Pharyngeal branch. 2. Superior laryngeal. 3. Branches to the lungs. 4. Branches to the liver. 5. Branches to the stomach.

the part of the brain called in man corpora quadrigemina (two pairs of elevations situated under the bands which unite the hemispheres); in front of this vesicle is the third ventricle. More detailed explanation is not practicable without the use of technical language, but it may be said that at this stage the human brain resembles the fully-formed brain of a fish in the small proportion which the cerebral hemispheres bear to other parts, in the absence of convolutions, and in the general simplicity of structure. Later, about the twelfth week of embryonic life, there is a general resemblance to the brain of a bird—the cerebral hemispheres are much increased in size and arch backward, yet there are no convolutions, and the commissures (points of union) are defective. Up to this time, the cerebral hemispheres represent nothing more than the rudiments of the anterior lobes; they do not even pass the grade of development which is permanent in marsupial animals (those which carry their young in a pouch, such as the opossum). During the fourth and the early part of the fifth months, the middle lobes grow backward and cover the corpora quadrigemina; later the posterior lobes cover and overlap the cerebellum. Notwithstanding the assertion which appears in some works on brain anatomy, it has been proved beyond doubt that the posterior lobes exist in the anthropoid apes, and that in some of them they extend as far back as they do in man. It is easy to understand, then, that an arrest of development of the human brain at one stage or another of its growth may leave it very much in the condition of the brain of one of the lower animals; and, as a matter of fact, examination after death of the brains of some persons who were idiotic at birth has shown that these organs were very similar to those of the higher apes.

We find exhibited in the working of the human body all the different modes or kinds of nervous function which are met with in the lower animal world. The so-called irritability of tissue, by which it reacts to a stimulus without the aid of a nervous system, may be of the same character as that molecular energy of matter which is displayed by the movements of the simplest forms of animal life. Even in somewhat higher animals, whether a nerve ends outside the covering of muscular fiber (sarcolemma) or within it, there can be no doubt that

it is not distributed to every particle of tissue. In the vertebrate animals, however, after death, when all nervous influence

Fig. 79.



- A. Human Spermatozoön magnified about 3,800 diameters.
- B. Vertical and lateral views of spermatozoa of man.
- C, D, E, F. Development of spermatozoa within the vesicles of evolution.
- G. Cell of the sponge resembling a spermatozoon.
- H. Vesicles of evolution from the seminal fluid of the dog in the parent cell.
- I. Single vesicles of different sizes.
- J. Human Spermatozoön forming in its cell.
- K. Rupture of the cell and escape of the spermatozoon.

is necessarily withdrawn, an energy still exists sufficient to produce the marked inflexibility of muscles known as rigor mortis.

The simplest mode of nervous action in man, comparable with that of the lowest animals which possess nerve, is shown

by the scattered ganglionic cells belonging to the sympathetic nervous system which are concerned in certain vital processes. The heart's action, for instance, is attributable to the ganglionic cells scattered throughout its substance. The separate elements of tissue are co-ordinated (made to act in harmony) by the ganglionic nerve-cells of the sympathetic system, and these co-ordinating nerve-cells are known to be under cerebro-spinal control, that is they are controlled by the cerebrum and the spinal column. In the last-named structure the ganglionic nerve-cells are collected, and are so united that groups of them become independent centers of combined movements, simultaneous and in sequence, in answer to stimuli. This arrangement represents the entire nervous system of those animals in which no organs of special sense have yet appeared. Still higher in the scale of the nervous system, the sensory ganglia, consisting of multitudes of cells differentiated by their special connections, are clustered together, forming a very important part of the brain of man, while in some animals they constitute the whole of the brain. In the cerebral hemispheres there is still greater specialization and complication of structure with corresponding enlargement of function; and, in conformity with its highest degree in man, there are in him the most complex manifestations of mental processes. In man, then, is summed up the animal kingdom; he actually presents us with a sort of analysis of it, for in the working of his body we find an integration and harmonious co-ordination of different vital actions which are separately displayed by subordinate members of the animal world.

If we attempt to trace the manner in which function takes place in the human brain, we become lost in the intricate and complicated mechanism of cerebral cells and fibers, but we can realize how sufficient, or more than sufficient for all the variety of our mental processes is the multitude of cells and most delicate fibers which constitute the convolutions. It is certain that in one cubic inch of convolution there would be found, if they could be counted, several hundred thousand nerve-cells, and in all the convolutions cells more in number than all the

stars of the heavens. When we compare these numbers with the number of words made use of by the most accomplished writers of English, we may perhaps be tempted to think that only a small portion of our intellectual instruments are utilized. Out of a possible number of English words, amounting to four hundred thousand*, Shakespeare uses about fifteen thousand, Milton not over eight thousand, an ignorant or uneducated person certainly not over three hundred.

Although there are observable differences in the size and configuration (structural arrangement) of the cells of the cortex (outer layer) of the hemispheres of the brain, yet it is clear that we cannot at present penetrate these intimate special differences in constitution or composition, or trace those special connections which the variety of their functions indicates. These essential differences of constitution are not of such a character that they can be revealed with existing microscopic power. Moreover, it is possible that they depend on chemical composition, and in that event, there is no certainty that microscopic power will ever aid us in penetrating into the molecular constitution of nerve element, even if we could isolate special cells as required.

Those of us who may be disposed to think it impossible that such important constitutional differences should exist in so small a compass, would do well to remember the numerous undetectable conditions which are positively known to exist in the most minute organic matter, as, for example, in the delicate spermatozoön (the fertilizing element of the male sex). It is from the union of this minute speck with a germinal vesicle that the muscles, nerves and brain, the intellectual organs of a Cicero or Columbus, are produced. The single sperm-cell, (spermatozoön) embodying the qualities of generations of male and female ancestors, unites with the germ-cell (ovum) embodying in like manner the qualities of generations of male and female forefathers, and gives birth to a new organic

* Number of words in latest edition of Webster's Dictionary. Not number of words existing in Shakespeare's time.

product which, minute as it is, contains in latent form all the essential characteristics, and in due course displays many of the qualities of ancestors on both sides, in addition to exhibiting new qualities as a result of the organic combination. There is, when this matter is considered, nothing extravagant in the supposition that a single nerve-cell may contain similar possibilities. Another example is the infinite smallness of the odorous particles which affect the smell, and, more wonderful still, the marvelous discriminating susceptibility of sense to these undetected agents. The extreme minuteness and consummate delicacy of the operations taking place in the most intimate recesses of nature are even more striking and wonderful than the vastness and grandeur with which the astronomer is concerned. Indeed, an atom of pure iron may involve a more complicated system than that of the planets and their satellites. Of what may happen in a world into which human senses have not yet found means of entrance we are no better able to speak than a man who was born blind is able to talk of the appearance of objects. In such matters it is a much wiser plan to say "I am willing to believe some things which seem impossible" than to assert that certain things are impossible because, with our present knowledge of physiology, chemistry, and biology, they appear inconceivable.

CHAPTER XVI.

MARRIAGE.

LOVE.

"Love is the root of creation; God's essence;
worlds without number
Lie in his bosom like children; he made them
for this purpose only.
Only to love and to be loved again, he breathed
forth his spirit
Into the slumbering dust, and upright standing, it
laid its
Hand on its heart, and felt it was warm with a
flame out of heaven."

—LONGFELLOW.

Love, that tender, inexplicable feeling which is the germinal essence of the human spirit, is the rudimental element of the human soul. It is, therefore, a Divine gift, a blessing which the Creator did not withdraw from his erring children, when they were driven from a paradise of innocence and loveliness into a world of desolation and strife. He left it as an invisible cord by which to draw the human heart ever upward, to a brighter home—the heavenly Eden. Love is the very essence of Divine law, the source of inspiration, even the fountain of life itself. It is spontaneous, generous, infinite. To its presence we are indebted for all that is good, true, and beautiful in Art and Nature. It endows humanity with countless virtues, and throws a mystic veil over our many faults. It is this feeling, this immutable law, which controls the destiny of the race. From its influence empires have fallen, scepters have been lost. Literature owes to Love its choicest gems. The poet's lay is sweeter when Cupid tunes the lyre. The artist's brush is truer when guided by Love. Greece was the cradle of letters and art. Her daughters were queens of beauty, fitted to inspire the Love of her noblest sons.

True Love never seeks to degrade its object; on the contrary, it magnifies every virtue, endows it with divinest attributes, and guards its chastity, or honor, at the sacrifice of its own life. It increases benevolence by opening the lover's heart to the wants of suffering humanity. Love heightens spirituality, awakens hope, strengthens faith, and enhances devotion. The desire to love and to be loved is innate, and forms as much a part of our being as bone or reason. Every man or woman feels the influence of this emotion, sooner or later.

The very existence of Love demands its activity, and, hence, the highest happiness is attained by a normal and legitimate development of this element of our being. The heart demands an object upon which to lavish the largess of its affection. In the absence of all others, a star, a flower, or even a bird, will receive this homage. The bird warbles a gay answer to the well-known voice, the flower repays the careful cultivator by displaying its richest tints, the star twinkles a bright "good evening" to the lonely watcher, and yet withal there is an unsatisfied longing in the lover's heart, to which neither can respond; the desire to be loved! Hence, the perfect peace of reciprocated love. If its laws are violated, nature seeks revenge in the utter depression or prostration of the vital energies. Thus has the Divine Law-giver engraven His command on our very being. To love is, therefore, a duty, the fulfilment of which should engage our noblest powers.

This emotion manifests itself in several phases, prominent among which is filial affection, the natural harmonizer of society. Paternal love includes a new element—protection. Greater than either, and second only in fortitude to maternal affection, is

CONJUGAL LOVE

"He is blest in Love alone
Who loves for years and loves but one."—HUNT.

"Mine, and thine, dearest," is the language of Conjugal Love.

The consummation desired by all who experience this affection, is the union of souls in a true marriage. Whatever of beauty or romance there may be in the lover's dream, is enhanced and spiritualized in the intimate communion of married life. The crown of wifehood and maternity is purer, more divine, than that of the maiden. Passion is lost; the emotions predominate.

The connubial relation is not an institution; it was born of the necessities and desires of our nature. "It is not good for man to be alone," was the Divine judgment, and so God created for him "an helpmate." Again, "Male and female created He them;" therefore, sex is as divine as the soul. It is often perverted, but so is reason, aye, so is devotion.

The consummation of marriage involves the mightiest issues of life. It may be the source of infinite happiness or the seal of a living death. "Love is blind," is an old saying, verified by thousands of ill-assorted unions. Many unhappy marriages are traceable to one or both of two sources: Physical Weaknesses and Masquerading. Many are the candidates for marriage who are rendered unfit therefor from weaknesses of their sexual systems, induced by the violation of well-established physical laws.

We cannot too strongly urge upon parents and guardians the imperative duty of teaching those youths who look to them for instruction, in all matters which pertain to their future well-being, such lessons as are embraced in the chapter of this book, entitled "Hygiene of the Reproductive Organs." By attending to such lessons as will give the child a knowledge of the physiology and hygiene of his whole system, the errors into which so many of the young fall and much of the misery which is so often the dregs of the hymeneal cup, will be avoided.

THE LEGEND OF KING ARTHUR AND THE ROUND TABLE

Far back in the Middle Ages personal purity was one of the requisites for a true knight. In the legend of Arthur he is depicted as *sans peur et sans reproche*—the blameless knight.

The legend of King Arthur tells of this famous monarch as being invincible in war, and beloved by all because of his wise and just character. He overcame the Saxons and marched with his conquering army as far as Rome. Called back by the revolt of his treacherous nephew Mordred, he met him in battle and was severely wounded. Transported by fairies to the Isle of Avalon, he returned thence to deliver the Britons. King Arthur established in his city, Caerleon, the order of the Round Table, famous in song and story; the opera of Lohengrin is founded on it, as also are many other mythical legends popular in bygone days.

At the Round Table there was no head or foot, but all the

knights were on a perfect equality, served at the same time and in the same manner. From his court King Arthur sent forth the knights, Perceval, Lancelot, Lohengrin, and others, who went in quest of the Holy Grail, the cup that Jesus drank out of at the Last Supper.' The mysterious cup, which Joseph of Arimathea brought to Britain, was supposed to have been hidden in the depths of a forest in Northumberland to save it from profanation by the unbelieving Saxons, and could not be discovered save by a knight who was pure in thought and deed. Today we have some knights as pure and true as Perceval and Lancelot—"clean" men, who know how to govern themselves; and happy the girl who marries such a man, for alas! there are many men whose characters are quite the reverse.

Thus we approach the subject of eugenics, which has so occupied public attention of late that it cannot be ignored. Our young people should be taught the danger and injustice to posterity of thoughtless marriages. The children in our high schools at the present time are instructed more or less in the first principles of the science of eugenics, and it is well that they should know the danger of marrying and bringing forth children from defective parents.

THE SCIENCE OF EUGENICS

"The word 'eugenics' was first used," says Professor Jordan of the University of Virginia, "by Sir Francis Galton, the founder of the science, in his book, 'Inquiries into the Human Faculty,' published in 1883. The foundation had already been laid in Galton's book on Hereditary Genius (1869). This, like Mendel's pioneer work four years earlier, was for many years neglected. Pasteur's studies on microorganisms and the rediscovery of the Mendelian principles of heredity in 1900, gave a new impetus to the bio-social study of man. With renewed zeal Galton returned to the work in the interest of eugenics in 1901, when he delivered the Huxley lecture of that year before the Anthropological Institute of London, on 'The Possible Improvement of the Human Breed Under the Existing Conditions of Law and Sentiment.' Then," further to quote Professor Jordan, "the science of eugenics leaped into prominence. Pasteur, who laid stress on the importance of the factor of environment with respect to man's well-being; Galton, who emphasized the importance of the factor of heredity to this end; and Mendel, who stated the law of inheritance of organic

characters, thus laying the foundation for the social direction of human evolution, had now received a universal hearing. Present indications point to the ultimate realization of Galton's hope—that the conception of eugenics may enter the national consciousness like a new religion."

"Statistics inform us," says Professor William H. Howell, in a lecture delivered at Johns Hopkins University (1913), "that there are in the United States some three hundred thousand feeble-minded persons, and it is altogether probable that this is a low figure, for the field is a large one and has not been examined completely. Moreover," he says, "in the tide of immigration which has been flowing into the United States, investigations indicate that the proportion of feeble-minded individuals is extremely high—six or seven per cent." There is therefore every probability that when people are fully informed in this matter public opinion will force the enactment of some kind of remedial legislation. It must come sooner or later, perhaps not for many years; but, as Professor Howell says, "It is probable that the first principles of eugenics, namely, the checking of the birth-rate of the unfit, will soon be given a practical test on a large scale."

Doctor Goddard, director of research (1913) in the Vineland Training School, New Jersey, has published a remarkable account of the pedigree of one of the inmates of that school. She is described under a fictitious name. "The account of her family tree is written," says Professor Howell, "in an interesting and convincing manner, and should be read by everyone who is at all concerned with this important sociological problem. The girl herself belongs to the class of high-grade defectives, designated as morons, to distinguish them from the lower grades of imbeciles and idiots. According to the description and photographs, she is an attractive, healthy-looking girl, with some pleasing qualities and accomplishments, yet she is not normal, and has mental defects which make it out of the question to expect her to become the mother of normal children."

"The history of her ancestry," says Doctor Goddard, "has been investigated and verified. It begins back in the time of the American Revolution, when a young soldier of good ancestry met at a tavern a pretty but feeble-minded girl, by whom he had an illegitimate son. After the war he married a normal, healthy girl, by whom he had seven children. He thus became the progenitor of two lines of descendants. The

history of these descendants has been carefully traced. On the side of the legal marriage, they number four hundred ninety-six in direct descent, among whom only two were alcoholics, and one known to be immoral. These legitimate children have been doctors, lawyers, judges, educators, landholders—in short, respectable citizens, men and women prominent in every walk of social life. From the liaison with the feeble-minded girl was born a son, himself feeble-minded, from whom have descended in the direct line 480 persons, of whom only 143 are known to have been normal. The rest are unknown or doubtful: 36 have been illegitimate; 33 sexually immoral, mostly prostitutes; 24 alcoholic; 3 were criminals, and 8 kept houses of ill-fame.” “These two families,” remarks Professor Vaughan, “have lived on the same soil, in the same atmosphere, and, in short, under the same general environment, yet the bar sinister has marked every generation of one, and has been unknown in the other.”

Davenport, Goddard, and others have collected similar histories. And, Professor Vaughan says, “While no other is quite so striking as the above, all point to the fact that the sins of the father extend even to the third and fourth generation. The evidence that there is seed so bad that good cannot come from it is conclusive.” And if there is to be a general day of reckoning, may we ask who is to be held accountable for all this misery, degradation and unhappy conditions? Surely, not the long line of descendants so handicapped by an inexorable law of heredity!

Professor Vaughan, dean of the Department of Medicine and Surgery, University of Michigan, and president of the Michigan State Board of Health, 1914, says; “No child should be born into the world save from good stock. However, ‘good stock’ needs some explanation. It does not mean riches; this is certain. It is true that in common parlance we have unduly magnified wealth. We say that such a young man or woman has a great inheritance, and by this we mean riches; but this is not the meaning given the term ‘good inheritance’ by the eugenist. One could hardly think of the rugged and masterly intellect of Thomas Carlyle or Abraham Lincoln coming from a line of wealthy ancestors. By good stock, the eugenist means one relatively free from undesirable unit characters, and the most important of these are alcoholism, feeble-mindedness, epilepsy, insanity, pauperism, and criminality. All of these classes should be excluded from the list of those to whom is

granted the privilege of exercising the highest, holiest, most important function of the race—parenthood.” Professor Vaughan’s ideas are so logical that we quote his decision that there is good reason to believe that in order to boast of “good stock” it is necessary to have an authentic history of at least three successive generations, and among these there should be none of the defective unit characters mentioned above. “If,” he says, “your ancestors have been clean-living, honest, sober people, it matters not whether they were wealthy or famous in literature, science, or art, for you can claim from them the desirable inheritance of ‘good stock,’ an inheritance of which few monarchs can boast; and if you have such an inheritance you must live up to it, and see that the stock you transmit to posterity is not deteriorated mentally or physically.” To quote again from Professor Vaughan: “The warp and woof of the character-habiliments that we are wearing have been spun, for the most part at least, by our ancestors. We are to prepare the character-raiment for those who are to fill our places. Let us do this work skilfully, intelligently, and honestly.”

HEREDITY AND ENVIRONMENT

Professor Michael V. Guyer of the University of Wisconsin has written an interesting little book in which he asks the often repeated question, “Does heredity play a greater part in shaping one’s mind and body than does environment?” It is answered in one way by Doctor Goddard’s history of the descendants of the young soldier, but, on the other hand, there is no doubt that environment also plays an important part in the great chance of life. “The foundation of eugenics is heredity,” says Professor Jordan; “but eugenics does not ignore the importance of environment. Both heredity and environment are essentials. The science which aims to improve the race through improvement of the environment has come to be known as eugenics. Eugenics is concerned with that still greater improvement, even in a perfect environment, made possible by application of the principles of heredity.” “Co-operation is the secret of ultimate complete success, but surely,” says Professor Jordan, “heredity comes first.” As Barrington and Pearson put it, “The *first* thing is good stock, and the *second* thing is good stock, and the *third* thing is good stock, and when you have paid attention to these three things, proper environment will keep your material in good condition.

But no educational grindstone is of service unless the tool to be ground is of genuine steel, of tough race and tempered stock. Bad environment may spoil the best inheritance, but no environment, however ideal, can lift an individual beyond the upper level of inherited potentialities for development." Many persons who have not made a careful study of the underlying principles of eugenics offer as a defense of their dislike that it is too material and destroys all idealistic ideas of love, and substitutes cold physical facts; in a word, would destroy the charm or joy that comes from conjugal love in its highest sense. "To attach this idea to the eugenics program," says Professor Jordan, "falsifies historical and contemporary facts. Eugenics," he says, "recognizes love of the highest and noblest quality as a cardinal factor in the achievement of its ideal, but it would have love intelligent, and it decidedly discourages certain impulsive matings which should be legally forbidden when all ethical appeals fail." Because two persons, one or both conscious of any disease among the undesirable units above mentioned, although to outward seeming in fair health, imagine themselves "in love," or perhaps really are in love, they have no right to marry and bring into the world a long line of defectives. However, it is not possible to use drastic measures in regard to marriage; young persons will have their way regardless of consequences to posterity, but it is, one may hope, possible in time to teach the rising generation the principles of eugenics.

"Marry only for love," said William Penn, "but be sure that thou lovest what is lovely." "This sage aphorism," says Professor Howell, "may be interpreted to mean that we should so cultivate our appreciation of what is best in humanity as to be attracted only by those who possess desirable qualities;" and he goes on to say that "this desirable state of things is what positive eugenics hopes to accomplish or to aid in accomplishing; not by force, not even by deliberate persuasion, but by bringing to the consciousness of educated people a realization of the fact that the welfare of the next generation will be influenced by the way they marry, as well as by the way they live." Although eugenics does not deny the belief in the life beyond, it is true that it concerns itself solely with heredity in this life. There are scientists and eugenicists who are materialists and do not look beyond, but there are others who do. Professor Jordan says: "Man is more than mechanism; man is spirit also. Science has just begun to touch the outer

fringe of the realm of spirit. The resources that here lie hidden for aid in conflict with inherited evil tendencies and weaknesses are all but limitless, and known in some small part, I am sure, to each person in a peculiar and especially personal way. One never knows until one had tried what are the environmental and psychic possibilities in correcting hereditary deficiencies or obliquities."

We often hear that "all men are born equal." All eugenists agree that nothing is further from the truth. There are as great differences among human beings as obtain between fruit and vegetables. Professor Davenport in his "Heredity in Relation to Eugenics" says: "Men are born bound by their protoplasmic makeup, and unequal in their powers and possibilities." Today (1920) the whole world is in the throes of social unrest, a condition that may be caused largely because many of the leaders of these unfortunate uprisings are not normal; their ideas of happiness are not substantial, are really anti-social and subversive of social welfare. "But the impression should not be left," says Professor Jordan, "that recognition of the value of good stock, and of the importance of heredity, is of recent development. It is probably as old as reasoning man. Jeremiah and Ezekiel both allude to the ancient proverb: 'The fathers have eaten sour grapes and the children's teeth are set on edge.' In Deuteronomy Moses speaks of visiting the sins of the fathers upon the children to the third and fourth generation." Some people assert that this applies to spiritual punishment after death, but any person of average intelligence can see at once that it refers to disease, and we are aware (thanks to eugenics) that it would take at least four generations of marriage with healthy individuals to eradicate tendencies to venereal diseases, etc. Our Lord reminds us that we cannot "gather grapes of thorns, or figs of thistles;" that "a good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit." The Greek philosopher Plato developed the same idea. We find in ancient mythology that Vulcan's deformity was attributed to the drunkenness of his father Jupiter, and the Chinese have for hundreds of years forbidden consanguineous marriages (marriages between those descended from the same ancestor).

And so we must admit that thinking individuals about to marry cannot or ought not to shut their eyes to their great responsibility to the unborn. It might be remarked that many are not capable of deep thought. This is, of course true in

varying measure, and eugenics demands that these be trained to think of developing themselves so that they may observe the laws of true living as far as their possibilities permit.

The subject of prohibition has so occupied public attention of late that it seems to deserve special mention in connection with eugenics. Its opponents vigorously deny that the excessive use of alcohol by parents or ancestors has any deleterious effect on posterity; but statistics are cold, hard facts, and there is proof that children born of drunken fathers, or even of parents who are moderate but habitual drinkers, not given to intoxication, are often defective. "Feeble-mindedness, epilepsy, criminality, and alcoholism," says Professor Vaughan, "are often found in the same genealogical tree. There is much evidence to support the claim that alcoholism engrafted on good stock leads to a deterioration, while on bad stock it increases the defects." Davenport and Weeks, in their study of epilepsy, state: "We see a constant excess beyond expectation, of epileptics and feeble-minded offspring from alcoholic parents, and our results support the view that alcoholism, to a certain extent, is a cause." The same authorities derive evidence that alcoholism is an actual cause of defective offspring, rather than merely an accompanying mental weakness that cannot resist the temptation of alcohol, from the fact that the proportion of defective offspring exceeds the Mendelian expectation. "They conclude, however," says Professor Webber of the University of California, "that the hypothesis that alcohol is a 'race poison,' demands further investigation."

"Doctor Mjœen of Norway," says Webber, "gives a very interesting case of the increase of feeble-minded in Norway when freedom was given to the distillation of brandy. In some districts almost every farmer distilled brandy from his own corn and potatoes, and the number of feeble-minded in such districts increased, from 1816 to 1835, almost one hundred per cent. The country was alarmed, and in 1848 the house distillation was stopped. The enormous increase in idiots came and went with the brandy." Doctor Mjœen also cites the results of Bertholet and Simmonds as showing the degeneracy of germ-cells in chronic cases of alcoholism.

Doctor Saleeby, in his "Progress of Eugenics," speaking of its principal founder, says: "Galton lived to see great developments in the external appanage of eugenics. Some of these were due directly to his own munificence, and more have

followed since his death. He began by founding a scholarship in National Eugenics at University College, London, and now (1914) there is a great department of eugenics at University College and the University of London can boast the first, and at present the only Chair of Eugenics in the world, endowed under Galton's will and at present (1914) occupied by Professor Karl Pearson, one of the most distinguished of living mathematicians." "Furthermore," says Doctor Saleeby, "eugenics societies have sprung up in many parts of the world: the Eugenics Education Society in London, with many similar societies in the provinces and one in Ireland, the New Zealand Society of Eugenics, another in New South Wales, founded in 1913, the French Society of Eugenics, with its excellent journal. But the United States," he tells us, "has really done more for the progress of eugenics than any other country in the world. Eugenists everywhere are indebted to the initiative of the American Genetic Association in this respect. Its record office, established in 1910 under the leadership of Doctor Davenport, has applied the principles of a new department of knowledge to the study of human heredity, and has added more to our exact knowledge of that fundamental subject in the last few years than all preceding time could record."

"Among all the works of man," says Professor Holmes, "the greatest is himself. The empires once graced with cities of great splendor sleep with the dead bodies of the past." Palmyra, that superb city of the beautiful Queen Zenobia, with its row of marble palaces, its fountains shaded by stately palm-trees, the splendid army of warriors, its slaves and luxury, has vanished—is only a dream—so that the archeologists differ as to the actual site. Babylon with its hanging gardens, its magnificence, its glittering courts, its crowds of pleasure-seekers—Babylon,

"Learned and wise, hath perished utterly."

And who can foretell the future, a thousand years from now, of New York, Paris, or London? They too may have passed into oblivion! Man's work disappears but he himself endures not only in the spirit, but in posterity.

"Granting that character is this supremely valuable asset that 'carries on,' can it be bred?" asks Professor Holmes. Eugenics says it can and undertakes to tell us how to do it.

NOTE: Much of the information that we give has been taken from lectures to students in Universities, and compiled in one book, entitled "Eugenics: Twelve University Lectures." The book is published and copyrighted by Dodd, Mead & Company, New York City.

CHAPTER XVII.

MOTHER AND BABE.

COMMON SENSE ADVICE.

Many a truth is spoken in jest. The often quoted witticism of Oliver Wendell Holmes, the genial "Autocrat of the Breakfast Table," that "To treat a man successfully we must begin by treating his ancestors for a hundred years before his birth," is a case in point. For the pregnant woman it is a sermon in a sentence. While it is obviously an impossibility for her to do anything to the individuals who preceded her in the line of descent which will have any effect upon the unborn babe she can and ought to so care for herself that she will pass through a comfortable pregnancy, experience an easy confinement, and bear a vigorous and healthy child in whom there is little, if any, inheritance of undesirable family traits, either of a mental or a physical character. What is necessary for this purpose is not a matter of great difficulty. It is within the ability of practically every woman with child, and is comprised in obeying the injunction to live a simple, natural and cheerful life. A knowledge of the signs and symptoms of pregnancy, how to meet the various conditions as they arise, and how best to lessen the discomforts which are sometimes experienced, are also material aids to this end.

SYMPTOMS.

The symptoms of pregnancy named and described below are those which are most readily appreciable. None of the very early occurring taken alone is positive proof of the existence of the condition under consideration, as any one of them may be caused by something else. The more of them present at the same time, the more certain is the probability that she who is experiencing them is pregnant.

The stoppage of menstruation is usually the first and most certain; as a rule it is complete, but occasionally the flow occurs, diminished in quantity and for a shorter time, once after conception at what would have been its next regular period. Very rarely it may continue, but slightly changed in character, at the usual intervals throughout the entire pregnancy. It is re-established in from eight to ten weeks after the birth if the child is not nursed by the mother, and as many months later if it is.

Morning sickness, or the nausea and vomiting of pregnancy, may come on a very few days subsequent to conception, but it does not ordinarily make itself manifest until the fifth or sixth week. It is experienced usually in the early morning and is aggravated by rising and moving about. It varies in severity from mere nausea or the raising of a glary mucus to the throwing up of part of the breakfast, and sometimes to the rejection of all food, no matter what its nature or what time of day it is eaten. It is seldom that it continues throughout the entire duration of pregnancy and usually ceases near the end of the fourth or in the early part of the fifth month.

The enlargement of the abdomen does not begin at once. In fact, for the first one and one-half or two months this part of the body is actually flatter than it is ordinarily, but at the end of that time it begins to assume a prominence. This, with the increase in the girth of the waist, grows rapidly greater, until about two weeks before confinement, when the size of the woman seems to have diminished.

Anywhere from about the termination of the first to the end of the second month some little irritability of the bladder may develop and persist with increasing discomfort, compelling more and more frequent urination, until the advent of the fourth month, after which it usually subsides rapidly and soon disappears, together with its attendant troubles. With the enlargement of the abdomen there is a corresponding and proportionate increase in the size of the breasts. They take on a firmer, knotted character, and are much fuller, while a prickling, stinging sensation is felt throughout their bulk, but especially in the neighborhood of the nipples, which become sensitive to the touch, prominent and increased in size. The colored discs in the midst of which they stand become deeper

DOCTOR V. M. PIERCE, No. 663 Main Street, Buffalo, New York:

Dear Sir—"During my first expectant period I got in a very weakened and nervous condition. My mother advised me to take Dr. Pierce's Favorite Prescription. The first bottle strengthened me so that I continued its use. I took four bottles, which not only built me up in strength but I had practically no suffering. I am most enthusiastic in my praise of Dr. Pierce's Favorite Prescription as a tonic and nervine for the expectant mother and am glad to send this letter for publication."

Very truly yours,

Mrs. J. S. Davis.



MRS. J. S. DAVIS AND CHILD

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—"As a tonic and nervine before or after the birth of a child, I have the highest praise for Dr. Pierce's Favorite Prescription. I was unnerved and ailing when this Prescription was recommended to me and before I had taken it a week I felt stronger and my nervous condition disappeared. After my baby came and while nursing him, I again felt the need of a tonic and nervine and Dr. Pierce's Favorite Prescription strengthened me at once. It is a splendid remedy for women and I do not hesitate to recommend it, especially to the young mother."

Yours very truly,

Mrs. Ola Weir.

in tint, spread out further over the surrounding skin, and by the end of pregnancy cover two or three times their original area. At this period, also, faintly tinted bluish, reddish or silvery lines in the skin have developed, which radiate over the breasts, and enlarged veins, forming a colored network beneath the surface, are much in evidence.

Quickening is the name given to the first unmistakable movements of the child in the abdomen felt by the mother. The time of its occurrence varies widely, but is generally from the sixteenth to the twentieth week. It was believed in olden times that it was at this moment that the unborn babe was endowed with life. After the fifth or sixth months the movements are most often so marked that they may be felt by the hand placed upon the abdomen, or even appreciable to sight. Not seldom they are so strenuous as to cause distinct pain. The absence of any discernible motion from conception to delivery does not necessarily mean that the child is not alive, or that matters are not progressing as they should. As soon as pregnancy is supposed or known to be established, by the evidence of one or more of these symptoms, the prospective mother must bestow more thought upon her diet, bathing, amount of exercise or work, her rest, her mental activity, her emotions, and the performance of the various bodily functions, so that by greater caution and care she will minimize the chance of any untoward happening. She must also wear such clothing as is adapted to the requirements of her new state.

WHAT TO EAT.

No invariable instructions by which the pregnant woman can diet herself, stating just what foods she may eat and what she may not, can be formulated. General directions only can be given, for what is permissible in a given case at one time may not be at another, and what agrees perfectly with one individual may distress some one else. Each woman should remember that she must provide for the physical demands of two beings—namely, herself and child—and to accomplish this she must eat generously of the food which is the most nourishing and

most easily digested, personal preferences and dislikes being duly considered. It will be found invariably that the simpler articles, simply prepared, best meet the requirements. While meat contains strengthening and supporting elements of great value, an excess or even a very liberal amount of it must be avoided, as it tends to increase the size of the child and make its bones less supple than they should be—two factors which increase the difficulties of labor. Therefore it should be used in moderation, but not omitted altogether. It is preferable that it be served roasted, broiled or stewed, and not fried. Vegetables, fruits, eggs, butter, milk, and chocolate or cocoa, should be regarded as the main stays. There is no objection to tea and coffee in small amounts, unless there is some special condition of the nervous or digestive system which causes them to be contra-indicated. Rich puddings, elaborately-compounded pastries, undue quantities of candies, sweets, spiced or sour pickles, should not be eaten. Quite often a longing for special or unusual foods or dishes develops. If it is for things that agree well it may be yielded to, to a guarded extent at least; but if the craving is for unsuitable things, for those which cause distress or disturbance of the functions of the stomach or bowels, it must be denied. The course to be pursued by every pregnant woman is to eat food prepared appetizingly of the classes of those suggested as being the most useful. A few trials will show her which agree with

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—During my second expectancy I became very weak and nervous and could not retain food or even milk on my stomach. A friend recommended Dr. Pierce's Favorite Prescription to me and I found that it not only relieved me of my nervousness and nausea, but it strengthened me in every way. I had comparatively no suffering and a quick return to health afterwards. I cannot praise Dr. Pierce's Favorite Prescription too highly for the great benefit I received from it at that time. It is a good tonic and nervine and I take pleasure in recommending it.

Very sincerely yours,

MRS. CATHERINE FESLER.

her, and which do not. By continuing with the former, and discarding the latter, she will soon elaborate a dietary which is best suited to her own needs and digestive and assimilative powers.

MORNING SICKNESS.

Regular hours for eating should be observed. Nibbling food between meals is more than merely detrimental; it is harmful. Ample time for the complete digestion of each amount taken must be allowed. During the continuance of the morning sickness, hot milk, cocoa or chocolate, will often prove of service, though occasionally ice cold milk seems the best, not only in partly allaying the trouble, but in causing a portion of the nourishment to be absorbed, even if all of that given seems to be rejected. Solid food, however, should not be omitted entirely, if it is possible to continue with it. Later, when this symptom subsides or completely ceases, the problem of nutrition is not so difficult of solution, for the digestive powers increase, and the flesh lost in the early months is usually recovered.

The amount of exercise and physical work which is advisable or permissible depends very largely on the previous habits of the woman concerned. That overwhelming desire to indulge without limit in the hardest actual labor which seizes some pregnant women must be restrained. The same course must be followed in regard to long, tiring walks, running, dancing,

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y. :

Gentlemen—I am glad to write in regard to what Dr. Pierce's Favorite Prescription has done for me. I am the mother of two children. I took three bottles of "Favorite Prescription" before the birth of the last child and had an easy confinement. Am sending the picture of my four-months-old baby girl.

I will gladly recommend Doctor Pierce's medicine to all I can.

Yours very truly,

MRS. EMMA MERRIMAN.



BABY MERRIMAN.

horseback riding, conveyance in jolting vehicles, and the performance of fatiguing household occupations, such as a large washing or much sweeping, or labor which requires heavy lifting, or much going up and down stairs.

EXERCISE AND REST.

Every woman with child, nevertheless, should take moderate exercise, for keeping the muscles in good condition unquestionably facilitates labor and favors a quick recovery, besides improving the digestive powers and the performance of the functional activities of the body generally. Those who have been accustomed to a life of muscular work, and to the actual care of the household in all of its many departments, should continue the lighter and non-exhausting tasks only; while those who have led a more or less inert or sedentary existence should prepare for confinement by exercises consisting of short walks, gentle calisthenics, or the assumption of the minor and unexacting home duties. In every case, fresh air and sunshine should be courted assiduously, and fair weather should be taken advantage of by riding over smooth roads in easy-going vehicles whenever an opportunity presents itself.

Although exercise is a requisite which cannot be omitted with impunity, the pregnant woman should never fail to take plenty of rest; a period of recuperation after even the least wearying work is always in order. Nothing should ever be started when she feels tired, and nothing should be continued after this condition develops. Simply ceasing activity is not enough; one should lie down in some quiet, comfortable place, where she will be free from distractions of all kinds until she feels well rested.

As much may be said of the necessity for sleep. Not only does it "knit up the ravelled sleeve of care," but it quiets the nervousness so common, brings to the muscles the relaxation they need at short intervals and improves the condition generally of both body and mind. Early retiring, late rising and a good long nap after the midday meal, is the routine to be observed.

During pregnancy the future mother has to eliminate from her system not only the waste products resulting from her own bodily activities, but those produced by her rapidly growing child, also. As the skin is one of the principal excreting organs, and exhibits a marked tendency to become sluggish in performing its functions at such times, it is of prime importance that it has attention looking toward keeping it in good condition. For this reason, if for no other, bathing frequently and with regularity is necessary. A general warm bath, with a liberal supply of water and soap, should be taken every day. If it has been the custom for the woman to take a cold sponge in the morning, it may be continued if it still agrees; but it must be stopped at once if it does not. In the former case the warm baths may be taken less frequently, two or three times a week only, but never dispensed with entirely. It is best not to indulge at all in pond, lake, river or ocean bathing.

WATCH THE KIDNEYS BEFORE AND AFTER CHILDBIRTH.

During the period of pregnancy the kidneys have double work to do, which is apt to strain and weaken them so that they break down and fail to keep up their work of filtering the uric poisons out of the blood-stream. This condition, unless looked after promptly, may kill the baby before birth and ruin the mother's health, too.

The expectant mother should have her urine examined every few weeks. This should be done by the attending physician, or send sample to Dr. Pierce's Invalids' Hotel in Buffalo, N. Y. for analysis. (See page 625.)

For toning up weakened kidneys, Dr. Pierce's Anuric Tablets provide effective treatment, and a bottle should be kept in the house and should be used for a time after baby has come to keep the blood free from poisonous matter that might affect the little one during the nursing period.

An-uric is on sale by nearly all druggists. If your dealer can not supply you, send sixty-five cents direct to Dr. Pierce's Laboratory in Buffalo, N. Y., and a package will be sent you, postpaid.

CLOTHING OF PROSPECTIVE MOTHER

The clothing of the expectant mother should be such as is suited to the season of the year. It need not differ from that worn on ordinary occasions, except that it should exert no pressure upon the breasts, as it will seriously retard their usual increase in size and cause the nipples to be shrunken into them and undersized, all of which condition are quite sure to occasion pain and suffering later, and especially if the child is nursed.

When the nipples are in this state, no matter how it has happened, they should be given special attention particularly during the two months before delivery, consisting of drawing them out gently and massaging them daily between the thumb and fingers, with a rolling motion. If in addition cold water is applied to the breasts generally, with equal frequency, and the whole organ is briskly but not roughly rubbed, it will assist matters materially.

The abdomen or waist should never be closely confined, for the activities of these parts of the body should not be hampered in the breathing or other movements. Corsets and tight waistbands interfere directly with the position the constantly enlarging womb should occupy from time to time, and have an evil influence on the development and growth of the child; they also favor the occurrence of kidney troubles and inflammatory maladies of other abdominal organs, and hence must be done away with absolutely. This can easily be accomplished by supporting the garments from the shoulders. The best of the Common-Sense Waists, now widely advertised, illustrates this method, without sacrifice of appearances.

MENTAL CONDITION OF THE MOTHER.

If she upon whom motherhood is shortly to be conferred will but recollect that child-bearing is a purely physiological function, as natural as eating and sleeping, and that with

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:



Dear Sir—I send photo of myself and little daughter Lillian. I began taking "Favorite Prescription" when I had morning sickness and it took all the discomforts away. When baby came I was sick only an hour and a half. She is a strong, healthy child and I know I owe much to Dr. Pierce's Favorite Prescription. I want to say to every woman whose desire is to be a mother, take Dr. Pierce's Favorite Prescription and there is every hope for you to have a darling little one in your home.

Very truly yours,

MRS. SANDISON AND BABY.

MRS. JOHN SANDISON.

proper care and attention to details the chances that she will pass through it successfully are one hundred to one in her favor, it will be of material value to both herself and her child. As the emotions are more easily stirred at this time than at any other, she should avoid everything she can that is unpleasant, disturbing, worrying, saddening or temper trying. In this she should have the assistance of her husband and family. She should occupy herself in pleasant tasks, keep her mind centered on the brightest things of life, and choose as her associates those who are of a happy disposition, who are not bores, and who never tell her doleful stories of what accidents and calamities have happened to some other woman similarly situated. She ought, further, to keep herself well in hand, try to maintain an even temper, to be cheerful at all times and endeavor to yield under no circumstances to fits of melancholy, peevishness, bad temper and general depression. These undesirable manifestations which are prone to occur are usually purely nervous reflex indications of her condition and have ordinarily no other reason for their appearance. In proportion as she is successful in these respects, she increases the probability of an easy confinement and of having a bright, happy and manageable child. It is beyond question that the mental attitude of the woman during pregnancy has a decided bearing on the disposition and mental status of her child; cheerfulness and even temper in the former begetting the same in the latter. The influence which maternal impressions produced by unusual or horrible sights have upon the physical structure of her offspring, is, as yet, questionable. If she has any such an experience she should give herself the benefit of the doubt and take an optimistic view of the situation. By a determined effort that she will efface the occurrence from her memory, resolving absolutely that no mischief will result from it, and by engrossing her mind in some pleasing and absorbing pursuit, there is every probability that no ill result will follow. Nearly all of the gruesome stories regarding birthmarks are old women's gossip or tales which have no, or but the slightest

foundation in fact, and are the outcome of the morbid pleasure so many people derive from terrorizing their hearers.

VALUE OF A TONIC.

To make assurance doubly sure that all will go well with both mother and child, before delivery and after, much can be done by the aid of good medical treatment. She with whom matters are progressing as they naturally should needs fortification against possible deviations from health which are probable, and she who suffers from any of them unquestionably requires it. No other one remedy for preventing complications and curing those which are actually present has ever approached, in value, Dr. Pierce's Favorite Prescription. It is a standard family medicine which has been before the public with an ever-increasing number of friends and advocates. It has been used in all the pregnancies of three generations of countless families—the mother, the grandmother and the great-grandmother bearing testimony to the fact that it acts as a shield against disaster and a "very prop in time of trouble" to the woman with child. It is prepared with a view of aiding both mother and babe, and has abundantly fulfilled its mission. It is a uterine tonic which strengthens all of the reproductive organs and enables them to do the work in which they are engaged with comfort; and it is an unrivaled agent in making childbirth speedy and almost painless. "Favorite Prescription" improves the general system and thus prevents many of the discomforts usually experienced. Being also a gentle sedative and free from alcohol, narcotic or poisonous

Dr. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Twenty-five years ago I had my first experience with your Favorite Prescription, during expectancy, and it was so beneficial to me that I was never without it. I also took the "Pleasant Pellets" to keep my system in a clean, healthy condition, and they were mild. I never had piles, as so many mothers do, and I believe your medicines were responsible for all my good condition at these times. I have taken "Favorite Prescription" a number of times since, whenever run-down, weak or nervous and it has never failed to restore me to health and strength. These medicines have been of such help to me that I continue recommending them to other women who are ailing and to prospective mothers. Very truly yours, MRS. EMMA CRAMER.

principles, it banishes the countless nervous symptoms, such as irritability, groundless fear, depression and melancholia.

In view of these facts, which have been proven by the experience of not hundreds but thousands of women who have depended upon it to carry them safely through the trial which was before them, it may be regarded as the one medicine which has practically made obsolete the expression "the perils of childbirth." Furthermore, its effect upon the unborn babe is all that could be desired. Many a strong, healthy, hearty infant, born of a delicate, fragile mother, owes its good health and happiness of disposition to the fact that she used Dr. Pierce's Favorite Prescription from the beginning of her pregnancy throughout its entire course, and, in some instances, as long afterwards as she nursed it.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :



Gentlemen—I want to write and tell you how I praise your "Favorite Prescription." When I was first married I had very poor health. We were married 4 years and had no children, as I would miscarry. I got a bottle of your "Favorite Prescription" and took it and felt so much improved that I got another, and in nine months after taking it I gave birth to a fine twelve-pound boy.

I feel as though I would never have had my darling "baby-boy" if I had not taken your "Prescription." I have long been wanting to write and tell you what it did for me. May every woman who suffers try it as I know it will help her

Very sincerely yours,

MRS. ANNA HUTCHINSON.

DOCTOR PIERCE, Buffalo, N. Y. :

Dear Sir—I am glad to say that Dr. Pierce's Favorite Prescription is a most valuable medicine for women. I have myself used it when in a delicate way and the benefits were very marked. It is a fine medicine for that condition. I have recommended it to several other women who have used it for this purpose—always with satisfaction. I have also seen "Golden Medical Discovery" used in case of threatened consumption, and the result was to arrest the disease. I know the Pierce remedies are just as represented.

Yours truly,

MRS. JENNIE LOWERS.

In those cases in which there is constipation, or a tendency at least to a sluggish action of the bowels, the use of Dr. Pierce's Pleasant Pellets will be of marked assistance. They should be taken so that they will cause one stool each day, but not of a very loose or fluid character.

The bedroom of the prospective mother should be the largest sleeping room in the house, well ventilated and light. It should receive a thorough cleaning a week or two before the expected confinement, and if the room has been occupied at any previous time by an invalid or anyone ill with a contagious or infectious disease, the room should be thoroughly disinfected with formaldehyd candles, or sulphur and steam, keeping the room closed for eight to twelve hours. The bed should be accessible from both sides. The mattress should be firm and under no circumstances should a feather bed be used. A rubber sheet which has been thoroughly cleaned should be placed over the mattress where the hips rest and over this may be spread a sheet or a protecting pad for absorbing the discharge.

An abundance of hot water and clean towels should be ready upon the arrival of a physician. The attending physician usually brings with him everything that is required in the way of drugs, stimulants, etc., but it is well to have in the house a small bottle of brandy or good whisky, fountain syringe, one or two basins, a bed-pan and half-pound or a pound package of absorbent cotton, two to four ounces of boracic acid, a rubber sheet (one and a half yards wide and two yards long), nursery cloth or cheese cloth (eight yards) for pads, unbleached muslin (two yards long and eighteen inches wide) for binders, carbolized vaseline (one ounce), and safety pins of various sizes.

THE BABY.

Undoubtedly there is no time in a woman's life she receives more advice from neighbors than during the first year of motherhood. No two of her friends give the same counsel, consequently she is greatly perplexed and does not know what to do. In this article on the care of the baby, it is our intention simply to give a few hygienic rules, which, if followed,

will have a tendency to keep the nursling in health and vigor.

Cleanliness, pure air, proper food and clothing, are absolutely necessary for the health and happiness of both mother and child.

If the mother has a cross baby, in all probability she has no one to blame but herself. If she has been cheerful and satisfied with her condition during pregnancy the chances are that she will have a good-natured baby. The baby may cry more or less during the first two or three months, but a reasonable amount of crying is to be expected; and, if otherwise well, taking food regularly, gaining in weight, etc., with no symptoms of disease, an occasional cry should cause no alarm, but rather be considered as a part of its necessary exercise. During the first few hours, at least, crying may be considered an indication of vigor.

If inflammation of the eyes develops at any time during infancy, especially soon after birth, a physician should be consulted at once. The first sign of trouble noticeable is that on awaking from sleep the eyelids are slightly glued together. Their edges are red, and on turning down the lower lid a little white matter may be observed; light causes pain, and there is a tendency to keep the eyelids closed; the lids may swell and become red on their external surfaces, and a large quantity of matter may be excreted. Blindness may result, unless proper treatment is instituted at once.

Inasmuch as inflammation of eyes during first week of infancy may cause blindness, preventive measures are of the utmost importance. All up-to-date physicians realize the necessity of proper treatment in such cases. No time should be lost in calling your family physician, or a physician who makes a specialty of diseases of the eye.

This little pamphlet may reach many who live twenty to one hundred miles from a physician, and for such this advice is given.

The Crede Method is now universally used to prevent possibility of blindness. Immediately after birth, before the cord is

tied, the child should be placed upon its back in the bed, the eyelids carefully cleansed, then parted and two drops of a two percent. solution of nitrate of silver should be dropped in each eye with a medicine dropper. When there is reason to suspect gonorrhoeal contagion, this should be repeated on the second day, but not again without consulting a physician.

When the disease is fully developed in one eye only, the other should be protected with a bandage. The nurse should wash her hands before and after attending to this application and unless both eyes are affected should not use the same piece of absorbent cotton for both eyes, but a fresh supply should be at hand for each application. The nitrate of silver solution should never be stronger than two percent. and should be freshly prepared within a few days before confinement. It should also be kept in an amber-colored bottle, preferably glass stopper, in a dark place of ordinary temperature.

In a few minutes after birth the cord should be firmly tied about three inches from the child's body with a stout piece of twine or tape, and it should be tied again about an inch farther on. Holding the cord in the palm of the hand, a cut should be made with dull or blunt pointed scissors between the two ligatures. The tying should be carefully done, otherwise the baby might bleed to death. The little one should then be wrapped in a warm blanket or sheet, laid in a warm place, not in a chair where some one may sit on it, but out of the way until the mother is cared for. Under no circumstances should the stump of the cord be greased (in accordance with old customs), but instead should be dusted with powdered boracic acid, subnitrate of bismuth, or baby powder, and wrapped in absorbent cotton or dry linen. It is necessary to keep this dressing dry and in due time this piece of the cord will drop off. Force must not be used. No attempt should be made to deliver the after-birth by pulling on the cord.

The first ten days after arrival of baby, and in some cases a longer period, mother and baby should not be on exhibition. Both should have plenty of sleep and see only members of the

family. A few hours after arrival of baby, the father, or some other member of the household, may have an idea that baby's head is not the right shape and the body is out of proportion in other ways. There is very little danger, however, of permanent disfigurement, and the restoration to a normal condition should be left entirely to Nature. Occasionally, within a day or two following birth, an infant's breast may become swollen, hard and painful, secreting a thin fluid resembling milk. No pressure should be used to remove the secretion, as it will only aggravate the trouble and may cause serious inflammation. In severe cases, when the surface is red, much swollen, hard, and tender to the touch, a warm water dressing must be constantly applied.

After the mother is attended to, the baby should be rubbed all over with sweet oil or fresh lard. Next wash off the coating with a soft cloth or sponge, warm water and soap. A flannel band and a diaper are then put on, the baby is wrapped in a warm flannel or blanket and allowed to sleep. It is a mistake to feed the baby immediately after birth unless advised to do so by the attending physician. If the baby is placed to breast a few hours after birth it has a beneficial effect upon the mother in many ways and the baby receives all the nourishment necessary. Usually the milk appears in the breast within twenty-four to forty-eight hours following birth, and if Nature intended earlier feeding provision would have been made. Therefore we advise that no drugs, sugar, whisky, or food be given. After the baby and the mother have received proper attention, both should be allowed to sleep for a time, and upon awaking the baby should be placed at the breast for a few minutes. During the first few weeks the baby may sleep fifteen or eighteen hours out of twenty-four.

During the early months of life, the most extensively used bed for the baby is the Bassinet. This consists of a wicker basket, having high sides and standing somewhat higher than the ordinary bed, thus avoiding drafts near the floor. It is light, easily moved and without rockers. A large oval clothes-

basket can also be made into a very comfortable bed for the baby, serves the same purpose as specially constructed and elaborately fitted Bassinets, and is much more simple and less expensive. It should measure thirty-two inches long, and should be supported by a low stand or two chairs. Such a basket fitted with warm blankets and its sides protected with a light blanket will answer very well until about the eighth month when the child should sleep in a crib or child's bed.

For the first three months it should nurse every two hours, from five to twenty minutes, from early in the morning, say five or six o'clock, until ten or eleven at night and from that time it should sleep at least six hours without nursing. This gives the mother six hours of uninterrupted sleep. Remember the baby requires water the same as any other human being, and many times when it cries it is not caused by colic or hunger, but by thirst. The water should be boiled and cooled—not ice cold. It is best to give one or two teaspoonfuls, in half-teaspoonful quantities, three or four times during the twenty-four hours.

The stomach of the new-born infant holds only about two tablespoonfuls, or one ounce. Therefore the first day after birth it should receive at one feeding, that is, if fed from bottle, one to three tablespoonfuls at a time; two to six weeks, two to four tablespoonfuls; six weeks to three months, six to eight tablespoonfuls; six months, ten to twelve tablespoonfuls; at ten months, sixteen tablespoonfuls. If the baby is nursing, it is not necessary to regulate the supply, but allow the baby to nurse until satisfied and asleep. The amount of food is gradually increased as the child grows older. A large baby requires more food than a small one. A baby should not be nursed every time it cries and under no circumstances when suffering from colic as that would only aggravate the trouble later. The baby's training must begin early, otherwise the mother will have many wakeful hours and nights of worry which could have been prevented. A baby who gets in the habit of being regular, sleeps better, gains in weight, is less nervous and irritable, consequently causes less trouble.

Regularity in nursing is as essential to the interests of the mother as to those of the child. The nipple is injured by prolonged or frequent maceration. The milk becomes concentrated by over-frequent suckling, thin and dilute when the intervals are too prolonged. For this reason the child should not be permitted to sleep in the same bed with its mother, for under such circumstances nursing may be irregular, and, furthermore, the mother does not receive the rest she otherwise would. A very young babe should be placed in its little bed not later than six or seven o'clock in the evening. It should be awakened every two hours during the daytime to nurse, but not at night. If the baby is asleep at five o'clock immediately after nursing, it should be awakened at seven and nurse, allowed to sleep until nine and nurse again, and then, unless the mother retires for the night, should after an interval of two hours (at eleven o'clock) be nursed for the last time.

The bowels usually move within twenty-four hours after birth. The first movement is usually dark, like tar, in appearance; later, yellow. If the bowels fail to move within twenty-four hours the family physician should be consulted, or, if he cannot be obtained, a teaspoonful of pure, sweet oil should be given. The new-born infant usually has a movement of the bowels two to four times daily for the first two months; after that about once a day. The movement has the appearance of yellow cream.

One of the most frequent ailments of the infant is constipation. To relieve this condition, the diet must be regulated carefully and correct habits formed. Correct habit is of as much importance as the diet in the prevention and correction of constipation. If the bowels fail to move regularly every day, drugs internally, or gluten or glycerine suppositories may in extreme cases be used, but only temporarily, for the constant use of drugs in this condition should, if possible, be avoided. Where other means fail, pure olive oil, a half-teaspoonful or a teaspoonful, may be given once or even twice daily, or if the case is an urgent one, Castor Oil or Doctor Pierce's Laxative for children

may be given, the dose to be regulated according to age. Orange juice, from a fresh, sweet orange, may be prescribed in doses from a teaspoon to a tablespoonful an hour or so before nursing. Prune juice may be used in the same manner. Very acid fruits should not be allowed during the nursing period. Infants at three months of age may be taught to have stool regular by placing upon a small chamber or the Nursery Chair at a stated hour. In older children, a fixed time should be set for the daily visit to the toilet. The best time for this is just after a meal, preferably breakfast.

Constipation is perhaps more common in breast-fed infants, and may be due to a minimum amount of food or milk that is low in fat. If the babe is nursing, the quality of the mother's milk should be improved, if possible. If not sufficient, the mother's milk may be analyzed by chemist to determine the amount of fat it contains, or it may be analyzed for any other reason, providing the infant is not doing well. Between nursings, the infant should be given water.

In some cases, one or two teaspoonsful of cream may be added to each bottle, if a bottle-baby, or Cod Liver Oil may be given in half to teaspoonful doses before nursing. However, this is usually objectionable on account of the taste. For a slight change in diet, we suggest one or two teaspoonfuls of thoroughly cooked oatmeal, cooked an hour or longer, to about the consistence of cream. This, of course, is not intended for young infants, but from the eight or tenth month. It may be sweetened with sugar and strained, if necessary, and may be given once or twice a day, or oftener if the case requires it, preferably at nursing time.

Malted milk, prepared with barley may be given, or Mellin's Food with milk, taking care not to disturb the infant's digestion by too frequent use of any of the articles mentioned, or too large quantity. Only one remedy should be used at a time. Babies fed on properly modified milk seldom require drugs for this condition.

Stomach and intestinal indigestion in young infants is frequently due to improper feeding and disappears when the child is put upon a proper diet. It may be seen in both breast-fed and bottle-fed babies. It may be due to an over rich milk, or too frequent nursing.

In bottle-fed babies, the child may have been given for some time a food too high in one or more of the food elements, or a proprietary food, may have been used unsuited to the age or condition of the baby. Improper articles of diet—sugars and starches often cause this trouble.

Excessive quantities of the above during infancy should be avoided. If the food is not properly digested, there may be curd in the stool, indicating the baby is receiving an over-supply of nourishment which it cannot properly digest. The indications are in such cases to lessen the amount of feeding.

Breast-fed infants should not be nursed irregularly nor too long; for a young infant once in two hours during the day and at no other time. Before nursing, it may be given five to ten drops of Fairchild's Essence of Pepsin in cool water which has been boiled.

If diarrhea is present, resulting from irritation of undigested foods, the child is passing curd, is nervous, fretful, skin dry and some fever, the first thing to do is to empty the bowels and expel the undigested food which is causing the irritation. Castor Oil, from a half to a teaspoonful, or Dr. Pierce's Laxative for children may be given for this purpose.

If the buttocks are red and the movements smell sour, ten to fifteen drops of lime water may also be given in a little water before nursing. If the movements smell sour and there is no diarrhea, Phillips' Milk of Magnesia may be given. Five to ten drops for a young infant at each nursing has a tendency to relieve this sour condition, also constipation.

If these remedies cannot be procured, one-half teaspoonful of bicarbonate of soda or salaratus may be dissolved in half a glass of boiled water which should be kept covered, and a small teaspoonful may be given every two to four hours as necessary

until the stools no longer smell sour. If the baby does not improve within a few hours, send for the family physician.

If an infant nursing at the breast is troubled with constipation it may be unnecessary to give the little one any special treatment, as this trouble can frequently be remedied by harmless remedies given to the mother. If a nursing infant is constipated, we usually find the mother troubled with the same complaint. Ordinarily, we would advise the mother to take Dr. Pierce's Golden Medical Discovery, one teaspoonful, from three to six times daily, in a little water; if taken only three times daily, it may be taken before meals. This remedy is absolutely harmless. It contains no poisonous drugs, no opiates of any kind and no alcohol. It is a purely vegetable preparation and has a tonic effect upon the stomach, liver and bowels. The dose may be increased or diminished in accordance with its effects.

Dr. Pierce's Pleasant Pellets may also be taken, if necessary, for constipation. The mother may take one at bedtime or early in the morning before breakfast, and if this fails to give one movement she may, the following day, take two, and, if necessary, increase to three or four. Usually two "Pellets," at bedtime, have the desired effect and in most cases it is not necessary to take this number more than two or three times each week.

The diet of nursing mother is of much importance. For a few hours after confinement, the exhausted condition will certainly call for rest, hence sleep is imperative, after which some form of stimulation may be required. This can be accomplished by giving plain, wholesome foods, chicken broth, beef broth, weak tea or strained gruel, also milk toast and warmed sweet milk, to which may be added a pinch of salt. Each woman's case must be considered upon its own merits and if any special diet is necessary, the attending physician should advise. If warm drinks are not well borne, cold drinks—buttermilk, sweet milk, ice tea should be employed. In some cases, small quantities of ice cream. Where there is much stomach irritation, it is wise not to give solid food for the first three days, then give meat broths, gruels and milk. After the third day, if the bowels

have not moved, buttermilk added to the diet, stewed prunes and peaches will assist in causing a natural movement of the bowels as will oranges and grapefruit.

After the mother is up and about, it is not necessary that she should change her usual mode of living to any great extent, provided she is not digressing from the laws of health. Her food should be nourishing and she should avoid all foods of any description which cause indigestion. She should eat slowly and masticate the food thoroughly. A daily evacuation of the bowels should be obtained. Foods which disagree with the mother, disagree with the babe. Indigestion in the mother is usually followed by the same condition in the nursling.

LACERATION OF PERINEUM AND CERVIX.

Laceration of perineum means laceration of tissue between the lower part of vagina and rectum. Laceration of cervix means a tear at mouth of womb.

The usual cause of laceration of the pelvic floor and perineum also of cervix is childbirth, a large head or body, hurried labor, rigidity of the tissues, also improper use of instruments.

As the child's head passes through the pelvic outlet, the structures are greatly stretched and if it is the first baby there is frequently more or less laceration. In many cases the laceration is so slight as to be hardly noticeable and does not require surgical attention. In some cases it is moderate and may cause trouble later; in other cases severe, extending chiefly into the tissues in pelvis or in rectum. Besides the outward laceration produced by labor, the muscular structures of the pelvic floor are often torn, and this may occur without any external bleeding. To the eye all may seem normal.

If the laceration is not repaired, falling of the womb may result and other conditions, producing the following symptoms: Dragging or weight in abdomen, difficulty in passing urine or frequent desire to pass water. Diarrhea may be present in some cases, inability to control bowel movement, and in other cases difficulty in emptying the bowels. After menstruation is re-established, the flow may be excessive, leucorrhœa may occur

and sterility. There may also be a downward displacement of the bladder. The woman is often despondent, nervous and irritable—complains of distress in abdomen, backache, indigestion, headache, etc.

TREATMENT.

In severe laceration nothing is of permanent value except surgical repair measures which are capable of establishing permanent benefits. The object of the operation is to restore the pelvic floor, or support of pelvic organs. The operation does not necessitate opening the abdomen. We seldom find it necessary to use a general anaesthetic as chlorform or ether but secure comfort during the brief time required to stitch the parts together by using a local anaesthetic.

BATHING.

As a general rule an infant should be bathed once a day but never immediately before or after being nursed or fed. A baby bathtub may be used for this purpose, but unless the baby seems to thrive and do well it may not be advisable to immerse the infant in a bathtub more than every other day; wet the face and head before immersing the body in the tub. The little one may be sponged with warm water in the evening as well as in the morning; the water should be warm but not hot. The temperature of the water can be judged by testing it with the elbow, which is more sensitive than the hand. Lay a blanket on the lap, cover the child with flannel. Use cheese cloth for bathing, which should be thoroughly cleansed by boiling in water after each bath. The temperature of the room should be near 80° for the bath, but at other times about 70°.

The mouth of the infant should be thoroughly cleansed at least twice daily, night and morning, with a small piece of linen or cheese cloth which has been dipped in a saturated solution of boracic acid. Great care should be taken to wash the roof of the mouth and under the tongue; all parts should be cleansed thoroughly to avoid sore mouth. (The same care regarding cleanliness of nipples should be taken after nursing.) For the bath the very best soap that can be obtained should be used—

pure castile, ivory or any other soap that is known to be absolutely pure. After the bath the body should be carefully dried, and if the buttocks or any other portion of the baby's body is red it should be powdered with baby powder. Napkins, or diapers, should be changed frequently during the day, in fact every time the baby is wet and after each movement of the bowels, otherwise the buttocks will become very sore. For the first few days, with exception of first bath, baby should not be immersed in the tub, but receive only sponge bath until stump of cord has healed.

Have the infant's clothing loose, using only a few safety pins and buttons, allowing an easy change of garments and freedom of motion for the limbs. All parts of the body except head should be protected. The belly-band may be discarded after stump of cord has healed. It serves no useful purpose after that time. A medium weight or very thin woolen undershirt may be worn for warmth after discarding the belly-band, the weight of garment depending on the time of year the change is made. The belly-band, like the rest of clothing, should be loose enough to admit two or three fingers underneath it. The feet and legs should be protected with woolen socks reaching to the knee. The custom of allowing children to be dressed in a way to leave their legs and knees bare is a dangerous practice. No child should be overburdened with clothing, but it should be kept comfortable, in pure air, out of draughts, with clean, dry clothing, protecting the little one who, it must be remembered, is exceedingly sensitive to sudden changes in temperature.

In selecting shoes for an infant it is very necessary that they should fit properly, as an infant's feet are plumper than those of an adult, and the tissues, especially the bones, are softer. Badly constructed shoes may cause deformity. The shoes should be long enough to bend the toes down and backward upon themselves, and not cramp them. It is a mistake, however, to have them too long, allowing the foot to slide back and forth. The shoes should fit snugly about the heel and instep and easily at the toes. The best method of fastening is by lace.

After the third or fourth month baby should be laid in center of a soft-mattress several times daily and allowed to exercise the arms and legs, in fact, all the muscles. This is Nature's way of preparing the infant for a more difficult task of creeping and walking. When baby creeps, do not urge it to walk. The only safe plan is to let the child teach itself. Any assistance at such times has a tendency to cause deformity of spine and legs.

OUTDOOR LIFE.

Daily airings are necessary for perfect health, and if baby is born in the summer months it should be taken out daily in pleasant weather after the second month. A young baby's eyes should be protected from strong light, not only from sunshine when in the open air, but from any light which is very bright. In the open air the cover of carriage should be so adjusted that the sun will never shine in the baby's face. A child born in the fall or winter months, as a general rule, should not be taken out in the open air, until about the fourth month. In cool weather the baby should be taken out about one hour in the forenoon and half an hour in the afternoon. In the summer time it should spend the greater part of the day in the open air. In damp or rainy weather, either summer or winter, particularly with a strong wind blowing, it would be best to keep baby in the house. It is also best not to take baby out when the temperature is below fifteen degrees above zero.

In selecting a baby carriage, the mother must remember that the baby is a tender creature and very easily hurt. The carriage should run smoothly without jolt or jar. It should be well-balanced so there will be no danger of tipping over. The wheels should be kept from creaking, and the bed in the carriage should be soft and comfortable.

The baby's bedroom window should be left open at night after the third month, except when the outside temperature is below the freezing point. At all times in every season of the year, the room should in some way be ventilated, and unless the child is very delicate and has a tendency to bronchitis or croup, it

should be taken out every day, winter and summer, if in a baby carriage with the cover protecting from severe winds. In pleasant weather, the carriage should be placed in some protected corner of the garden and the child sleep in the open air.

As previously stated, the head of a young baby must not be exposed to the direct rays of the sun when it is extremely warm, nor the eyes to the bright sunlight. The more fresh air the child gets, the better prospects of health.

The open air treatment is as necessary as food, and even delicate, pale children, unless suffering from croup, should sleep with bedroom windows open at night, and in either case should be out in the open air during the daytime as much as possible. Keeping a child indoors for a slight cold is a mistake which is frequently made by over-anxious mothers, also in any acute illness where there is much fever, the child should have an abundance of pure fresh air. There is no danger of taking cold at such time. If the sleeping room is cold, the body should not be uncovered or exposed in any way to cold and exposure, for what is necessary is fresh air and what must be prevented is the loss of heat through undue exposure of naked limbs.

An observing mother knows the characteristics of the baby in health and can easily note any departure from the normal standard. Any change, such as restlessness in sleeping, with skin hot and dry which becomes more marked when awake, is an indication of fever. The baby usually desires to be taken up and carried about. The mother should notice the color of urine. If the baby passes a smaller quantity than usual, which is highly colored, this also is an indication of fever. She should also note the character of the cry, as described on a subsequent page. She should note the expression of the face, the frowning or wrinkling of the forehead in pain, the shrivelled old face in acute diarrhea, and the full face of measles and whooping cough. She should note any eruption; also, the color and character of the stools, frequency, etc. She should notice the breathing and the character of the cough. If very rapid and difficult, with cough, it might indicate any one of several dis-

eases, such as pneumonia, spasmodic croup or possibly membranous croup, and if other symptoms are present no delay should occur in sending for the family physician.

COLIC.

During attack the abdomen is usually swollen and hard, distended with gas. Indigestion is the cause of practically all cases, and is most common during the first few weeks of infancy. The symptoms of colic are sudden attacks of pain, manifested by crying and the refusal of the infant to nurse. There are, of course, healthy babies, who at times, refuse to nurse, not on account of colic, but for other reasons, and at such times do not try to force the feeding, but allow baby to wait.

During an attack of colic, the baby is restless, has contraction of abdominal muscles and draws up the limbs. After the expulsion of gas from the stomach and bowels, the symptoms disappear as rapidly as they came. Under no circumstances should the baby be nursed during an attack of colic or immediately following. Feeding relieves temporarily, but aggravates the trouble later.

If the attack is severe, the baby may be immersed in water agreeably hot, first tested with the elbow, or a bath thermometer. The temperature should not be over 100 degrees. A rectal injection of warm water with castile soap may be given or a glycerin suppository, small size, may be inserted in the rectum, or a conical piece of soap dipped in warm water inserted in the rectum may give relief. Dry heat to the abdomen, preferably allowing the child to lie on stomach across a hot water bag, using precautions not to have the water too hot. The steam should be forced out of the hot water bag before screwing on the top. Hold the baby over shoulders so that its abdomen rests on shoulders and spank over lower part of back, just above buttocks. A drop or two of essence of peppermint, a pinch of bicarbonate of soda in a dessert spoon of warm water may be given, or half a soda mint tablet, dissolved in a tablespoonful of warm water. In severe cases paregoric, five to twenty drops in a teaspoonful of warm water—for young

infants not over five drops. Paregoric should be used only in extreme cases and the dose repeated in an hour, if necessary. If the skin is cold and infant exhausted following an attack, a few drops of brandy may be given in a teaspoonful of warm water. The injection into bowel of warm Chamomile Tea—one ounce of German Chamomile Flowers, one quart of boiling water, steep ten minutes, strain, use warm—not too hot, using no force to inject same, from half a cup or cupful or more, according to age of child.

If the attacks of colic are frequent and severe something is wrong with the milk, whether breast or bottle-fed, and the family physician or specialist on diseases of children should be consulted.

CROUP.

Croupy children should be guarded against exposure to wind and dampness. The most susceptible time is during the third year. Give plenty of butter or cream during attack.

The treatment for the immediate relief of the paroxysm of simple croup is as follows: The child should be placed in a hot bath, first testing the water with elbow or a bath thermometer, and administer internally small amounts of hot water or an emetic, moistening the air with steam; using a steam atomizer if possible also has a beneficial effect. Syrup of Ipecac may be given, from ten to twenty or thirty drops, repeated every fifteen or twenty minutes until the child vomits, or until relieved of the pain. In some cases, the application of a cold, wet compress to the throat gives relief. A cold compress may be made out of linen, cheese cloth or ordinary wash-rag. It may be dipped in cold water, applied to the throat and covered with another towel. The water should be as cold as possible. This usually gives instant relief. If the child requires treatment for several days between these attacks, it must be administered under the advice of the family physician.

In Membranous Croup or Diphtheria the cough is usually dry and tight, may become loose or rattling; some wheezing or rattling can sometimes be heard in respiration. At first the child may not seem very ill, but have a slight fever, may com-

plain of sore throat. Spasmodic or simple croup may at times be mistaken for Membranous Croup or Diphtheria, therefore, if the child is not better in the morning; in fact, nearly well during the day time, a physician should be called at once, and if the case is Membranous Croup or Diphtheria, antitoxin should be administered in large doses. Diphtheria antitoxin has saved thousands of lives and should be administered in such cases in the beginning of the disease, the dose repeated as necessary according to the indications.

In true Diphtheria affecting the tonsils and upper portion of the throat, the diphtheritic membrane is visible to the eye, but in Membranous Croup it is not.

If inflammation of the eyes develops at any time during infancy, especially soon after birth, a physician should be consulted at once. The first sign of trouble noticeable is that on awaking from sleep the eyelids are slightly glued together. Their edges are red, and on turning down the lower lid a little white matter may be observed; light causes pain, and there is a tendency to keep the eyelids closed; the lids may swell and become red on their external surfaces, and a large quantity of matter may be excreted. Blindness may result, unless proper treatment is instituted at once.

Inasmuch as inflammation of eyes during first week of infancy may cause blindness, preventive measures are of the utmost importance. All up-to-date physicians realize the necessity of proper treatment in such cases. No time should be lost in calling your family physician, or a physician who makes a specialty of diseases of the eye.

This book may reach many who live twenty to one hundred miles from a physician, and for such this advice is given.

The Crede Method is now universally used to prevent possibility of blindness. Immediately after birth, before the cord is tied, the child should be placed upon its back in the bed, the eyelids carefully cleansed, then parted and two drops of a two percent. solution of nitrate of silver should be dropped in each eye with a medicine dropper. When there is reason to suspect

gonorrhoeal contagion, this should be repeated on the second day, but not again without consulting a physician.

When the disease is fully developed in one eye only, the other should be protected with a bandage. The nurse should wash her hands before and after attending to this application and unless both eyes are affected should not use the same piece of absorbent cotton for both eyes, but a fresh supply should be at hand for each application. The nitrate of silver solution should never be stronger than two percent. and should be freshly prepared within a few days before confinement. It should also be kept in an amber-colored bottle, preferably glass stopper, in a dark place of ordinary temperature.

COLDS AND COUGHS.

If a child has taken cold, the first indications are watery eyes and sneezing with a discharge of mucus from the nose. Frequently grease the forehead and bridge of the nose with mutton suet or Lanolin, insert a little vaseline in the nasal orifices and if there is fever, indicated by hot, dry skin and flushed face, the treatment should be the same as in other acute fevers.

First a laxative—Castor Oil or Dr. Pierce's Laxative for children according to age. Either may be safely given to a child from eight months to one year of age, increasing the dose for children from two to four years of age. A hot mustard foot bath, or warm foot bath without mustard may be given for ten to twenty minutes, the child placed in bed in a room where the temperature is about 72°, with free ventilation.

MOUTH BREATHING.

If the child constantly breathes through the mouth, finds it difficult or impossible to breathe through the nose, it may be considered an indication of adenoids and possibly enlarged tonsils. Earache frequently accompanies this condition. A nose and throat specialist should be consulted and the adenoids removed if present.

CONVULSIONS.

Convulsions are not uncommon in infancy and early childhood and are usually the forerunner of some severe illness. They may occur, however, simply from indigestion, intestinal worms, constipation, teething, etc.

During the spasm the child usually makes a choking sound, apparently ceases to breathe for a moment, becomes unconscious and stiff. The eyes are staring, rolling or squinted, the hands clinched, the mouth firmly shut. The face may become bluish from lack of air in the lungs, and then the jerking of muscles begins. Breathing may be irregular and noisy—the arms, legs and trunk twist about in all directions. The attack usually lasts from one to two minutes—sometimes an hour or more.

The child should at once have a warm bath, the water covering to the neck. Cold cloths, frequently renewed, should be applied to the head. The baby or child should be left in the water at least ten minutes, then wrapped in a blanket without drying. If the attack is due to indigestion or irritating foods, an emetic of a teaspoonful of Syrup of Ipecac may be given as soon as it is able to swallow. The bowel may be washed out by an injection of warm water. A hot bath and emetic usually prove sufficient. The water in bath should be very warm, but care must be taken not to burn the child. Test with the elbow or with bath thermometer—it should reach about 100 degrees.

If it is not convenient to give the child a full tub bath, cold application to the head, or an ice bag, if at hand, and placing the feet in a mustard bath may answer the same purpose.

Another convenient way of applying external warmth is by means of tolerably hot compresses. This is done by taking a large towel, or preferably flannel, dipping it in hot water, then wringing out the excess of water and wrapping the child in this towel from the neck to the feet. Care must be taken to avoid exposing the body of the child to cold air, especially when removing these hot cloths after about fifteen minutes to an half hour.

EARACHE.

The pain is usually severe. The child often puts its hand to the affected ear and cries whenever it is touched. The ear should be irrigated with a solution of warm water, as warm as can be

borne. An antiseptic solution of twenty grains of boracic acid to the ounce would be better. Hot applications externally, dry heat, the ear having first been covered with cotton or linen, a small hot water bag or any other hot application that is comfortable may be applied. An ear syringe may be obtained at any drug store for irrigating the ear with warm water. If the attacks are frequent, a nose, throat and ear specialist should be consulted to discover the cause.

TOOTHACHE.

This occurs most frequently in early childhood, and is usually due to neglected teeth. Agreeably hot applications, such as a hot water bag against the face may give relief. If a cavity in a tooth is discovered, a small bit of cotton moistened with oil of cloves and packed well into this may give relief. A dentist should be consulted as soon as convenient.

A bruise or sprain should be treated at once to relieve pain and to lessen swelling. Applications of hot water by wet compresses, if continued for an hour or two, usually afford relief. A severe bruise to an infant's head should receive prompt professional attention.

In the treatment of cuts, burns and scalds, cleanliness followed by a soothing application, excluding air with a cloth bandage and outside of this absorbent cotton, is usually all that is necessary unless the case is a severe one, requiring the services of a physician.

FOREIGN BODIES IN THE NOSE.

Young children occasionally insert peas, beans and other foreign bodies into the nose. These may occasionally be removed with tweezers, if not inserted too far, but if not too firmly fixed they may be removed by closing the opposite nostril and causing the child to blow the nose forcibly. If any difficulty is experienced, it is better to call a physician. Tickling the nose or giving snuff to produce sneezing may remove the object.

FOREIGN BODIES IN THE THROAT.

If fish-bone or any other substance gets lodged in the throat, it may be removed by inserting the finger and thumb into the mouth, passing into throat as far as possible and making

an attempt to pull it forth. If it is a soft substance, it may be crowded further. Follow this with a piece of bread which should be thoroughly masticated and give half a glass of water.

Foreign bodies such as coins, pins or buttons which reach the stomach, especially coins and buttons, will not cause trouble. If pins, needles or any sharp substance is swallowed, the family physician should be consulted. Buttons and coins are usually passed through the bowels. Laxative medicines are not required in such cases, unless the bowels are constipated and in that event castor oil may be given.

If coins or buttons are swallowed, the child should eat bread or potatoes and the stools should be watched the following day.

FOREIGN BODIES IN THE EYE.

For removal of cinders and other substances of like nature it is often unnecessary to do anything if rubbing of the eye is prevented. In such cases the tears often wash the object away at once. If it adheres firmly, the upper lid should be seized by the lashes with the fingers and pulled away from the eye and well down over the lower lid and then let go. If this is unsuccessful, irrigate the eye thoroughly, using a medicine dropper and plain warm water, or better, boracic acid, ten grains to the ounce of pure water, pouring in ten, fifteen or thirty drops. The child should lie on its back with eyelids widely separated, and a considerable quantity, sufficient to flush the eye, should be poured in.

FOREIGN BODIES IN THE EAR.

In the case of such foreign bodies as peas, beans or buttons, no force should be used in removing same, but if no physician is available, the mother may try to remove the substance in the following manner: The child should be laid upon the affected side and the tip of the ear strongly pulled outward and backward, thereby stretching the canal, whereupon the object will sometimes drop out. If it does not, syringing with tepid water may be employed. For this purpose a small ear syringe, or any other syringe that will answer the purpose, providing it is absolutely clean, should be used. In syringing the ear, the child should be seated, the ear drawn outward and backward and the

nozzle of the syringe placed at the upper part of the opening of the canal.

If an insect crawls into the ear, sweet oil or castor oil may be poured into the ear at once, and the ear may a few minutes later be syringed with luke warm water—perhaps a half hour later.

NETTLE RASH, OR WHAT IS COMMONLY CALLED HIVES.

This skin affection often resembles the sting of bees, or other insects. The condition comes on suddenly. It may last a few hours or a few days. There is much burning, tingling, and sometimes itching. Indigestion and over-eating are the most frequent causes. Certain foods may cause this even in adults, who are frequently troubled after eating shell fish, lobsters, strawberries, etc.

In a child, a dose of Castor Oil or Doctor Pierce's Laxative for children may be given, reducing the diet for a day or more. The skin may be powdered with any antiseptic baby powder, Colgate's, Mennen's or any other that can be obtained. In some cases to relieve the itching, equal parts of vinegar and water may be applied with cotton frequently. Castor oil applied externally with the finger tips, rubbing it into the affected parts gives relief.

PRICKLY HEAT.

This is seen in hot weather, especially in children who are too warmly clothed. Treatment consists of removing the cause. The irritated skin may be dusted with any of the antiseptic baby powders and the child given a dose of Dr. Pierce's Laxative for children. A light diet should be followed until the rash disappears. A soda bath, one teaspoonful of salaratus or bicarbonate of soda in a pint of water applied with linen or sponge and allowed to dry, is comforting.

ECZEMA.

This is quite common in infants and may be of short duration, or last several months. It may affect a part or the entire body. Irritating soap, soiled diapers, over-feeding, digestive disturbances, or irritating underwear may cause it. Often no cause can be discovered. In some cases, the skin becomes a bright red, covered with pin-head sized vesicles. These may rupture, leaving the surface swollen, red and moist with a watery discharge which may thicken and form crusts. There is much itching. In another form, the skin may be dry, red and thickened. Such

cases should be under the physician's care. The cause should be removed, if possible. A laxative may be given occasionally or when necessary. The child should not over-eat.

Use olive oil for cleansing the parts in place of water and soap, or a lotion of starch and boracic acid instead of plain water. The antiseptic baby powders often give relief in the red and "weeping" form of this disease.

DANDRUFF OR MILK CRUST.

Cleanliness usually prevents this condition, but when it is present any patches should be removed by soaking with olive oil, rubbing it in gently with the finger tips, to be followed with castile soap and warm water. A fine tooth comb should never be used under any circumstances. If the scalp has a raw weeping surface, it is probably eczema—not dandruff. In older children with dandruff, the scalp may be shampooed once a week with tar soap and warm water, after which a very little vaseline or olive oil may be rubbed into the scalp.

Lice are usually found in the unwashed, but any child may be infected by them through contact with another. The first symptom is a very decided itching of the scalp. Inspection shows the nits attached to the hair. A fine tooth comb may be used for removing same. Soap and water alone are insufficient. The best application is the ointment of Larkspur Seed, which should be rubbed into the scalp once daily for a few days in succession. The hair may be washed repeatedly with vinegar, but usually one or two applications of the Larkspur are sufficient.

BEDWETTING.

This is a disease usually not serious, and is not always a habit and the child should not be punished for it. Wetting the bed or the clothes, incontinence of urine, is not usually an indication of disease of the kidneys or bladder, but it is well to have the urine examined.

The child should have a light supper and fluids just sufficient to quench the thirst after four o'clock in the afternoon. The child should pass water just before retiring and if awake at any time during the night, should get up for that

purpose. The child should not be too warmly covered, and if possible should not sleep on the back.

Male infants should be examined for adherent foreskin, or phimosis, and if found should have circumcision performed. Phimosis is often a cause of convulsions and St. Vitus's Dance.

LEUCORRHEA.

Leucorrhœa, a discharge from the vagina, sometimes occurs in little girls, even in the first year of life. It may come from debility, injury, worms, or may denote an infection from unclean towels, diapers and a general lack of cleanliness. Bathing the parts with warm water to which may be added two teaspoonfuls of boracic acid to the pint, carefully dried, the parts dusted with baby powder, and covered with a piece of soft lint may relieve the irritation. A physician, however, should be consulted in all cases.

The acute, contagious and infectious diseases of childhood will not be considered in this pamphlet, for any child ill more than a few hours should be under the personal care of a physician. Much can be done, however, before the physician arrives, and in nearly all cases where there is high fever, a very good plan is to first give a dose of Castor oil or Dr. Pierce's Laxative for children, a hot mustard foot bath under cover in bed, which will cause free perspiration, and occasionally sponging the body with cool or tepid water, or alcohol and water, equal parts. Wood alcohol should never be used. No solid foods should be given, nothing but milk or water until the advice of a physician is obtained. There should be an abundance of fresh air in the sleeping room, regardless of the temperature outside, as a child with fever will not take cold.

KISSING.

Never kiss a child upon the mouth. Tuberculosis, diphtheria and other diseases may be communicated in this way. If kissed at all, it should be upon the cheek or forehead.

Do not allow your child to drink out of a glass or cup used by another person unless you know positively the physical condition of that individual.

DENTITION.

Dentition, or what is commonly called "teething," is a normal function, and, unless the gums are red and swollen, crying or fretting may be due to tight clothes, indigestion, scratching of a pin or thirst. It is sometimes necessary to take into consideration all the little ailments common to infants, making a thorough examination to find the cause of crying or any departure from the normal healthy standard. The cry of pain is strong and sharp, and usually accompanied by contraction of the features and drawing up of the legs. The cry of hunger or thirst is a continuous, fretful sound. The cry of sleepiness is also fretful. The cry of a sick child is feeble and whining. The cry of temper and indulgence is sudden, loud and strong, accompanied by kicking and stiffening of the body. With this cry, when baby gets what it wants, the crying stops. Crying when a part is touched or moved indicates the point where the trouble lies, and calls for further investigation, and perhaps treatment.

The two lower central teeth (incisors) appear first. The time varies from five to seven months. The teeth are usually later in making their appearance in bottle-fed babies than in those nursing at the breast, this, of course, depending upon the physical condition of both mother and babe. Usually, if the conditions are normal the nursing child is healthier than one fed on artificial food; consequently, the nursing infant usually has its first tooth at least a month in advance of the one "raised on a bottle." The baby's gums are at first a light pink and in appearance thin, but a short time before the teeth push through the gums become thick; the color of gums also changes slightly, becoming a darker pink than at first; if very red (bright red), we have a sign of inflammation. As the gums become harder, we notice the baby biting whatever reaches its mouth. If a teething-ring is used it should be washed frequently in boiling water, otherwise it may become a germ breeder.

The "milk teeth" are twenty in number. Beginning from the center, they are found in pairs. Those occupying the same

position in the upper and lower jaws have the same name. As previously stated the lower central incisors appear first, and later, usually in about three or four weeks, the upper central and lateral incisors make their appearance. At about the beginning of the second year, the two lower lateral incisors and four upper and lower anterior molars, will be discovered. There is always a pause between the cutting of each group of teeth, three to six weeks, according to the health of the infant. About the end of the second or the beginning of the third year the last group, four in number, complete the set. The milk teeth, which are only temporary, should receive the same care as the permanent teeth, and children's teeth should be cleansed with cheese cloth or a soft tooth-brush dipped in water which has been previously boiled and mixed with half a teaspoonful of bicarbonate of soda to a half cupful.

If the teething baby is receiving the food Nature intended, namely breast milk, many of the annoyances and ailments while cutting teeth may be prevented by keeping the mother's health in the best condition. The mother should be free from annoyances and her disposition cheerful. An emotional mother—one who has fits of anger, or one who meets with some great shock, such as sorrow—in fact, any condition which interferes with the cheerfulness of the mother poisons the milk to a greater or less extent, and may not only cause sickness in an infant, but place the little one's life in jeopardy.

INFANT FEEDING.

The milk from a healthy mother is by far the best nourishment for an infant during the first year of its life and cannot be fully replaced by any other form of feeding. Some mothers, however, are not fitted for nursing and in such cases it may be necessary to resort to artificial foods. Cow's milk modified to suit age is the best substitute. Tables for modified milk to suit different ages of healthy infants can be found on another page.

In some cases it may be necessary to use some of the prepared foods or even condensed milk for a time, but, in our opinion, none of them can take the place of mother's milk or modified cow's milk for an indefinite time.

In cases where it is necessary to resort to prepared foods, any of the following may be given a trial:

Allenbury's Milk Food No. 1 for use from birth until end of the third month, Allenbury's Milk Food No. 2 for use from fourth until end of the sixth month, and Allenbury's Milk Food No. 3 for use from the fifth or sixth month and upwards, Eskay's Food, Horlick's Malted Milk, Mellin's Food.

Nestle's Food may also be given a trial, especially in those cases where ordinary milk disagrees with the child.

To prevent Rickets: Cod Liver Oil, butter.

Of some value: Peanut, olive, cotton seed oil, lard, lean meat.

Of no value: Oatmeal, rice, white wheat bread, yeast, orange juice, vegetable, margarine.

Decay of teeth is prevented by plenty of milk, mutton, fish, fowl, eggs, turnips, potatoes.

An infant may be reared on artificial foods and remain healthy and grow strong, but the percentage of robust bottle-fed babies is much smaller than that of healthy breast-fed infants. This is particularly true of the poorer classes who often lack both the time and the intelligence required to rear a healthy infant by bottle-feeding.

The contra-indications to maternal nursing are, according to Dr. Holt, the celebrated specialist, as follows: If the mother has tuberculosis in any form, latent or active, she should not nurse her child. A tuberculous mother not only exposes her child to infection, but hastens the progress of the disease in herself. If the mother has consumption nursing is almost certain to prove fatal to her.

When the mother has any serious disease, such as Bright's Disease, convulsions or blood poisoning, during pregnancy or thereafter, she should not be allowed to nurse her infant. If she has St. Vitus' Dance or Epilepsy, nursing is contra-indicated. If she is very feeble or has any serious chronic disease,

the child will derive little benefit from breast-feeding and the mother will be greatly injured. Good artificial feeding is, of course, to be preferred to poor breast-feeding.

A breast-fed child in the worst surroundings has a better prospect so far as health is concerned, is less apt to become ill, than an infant under any condition of substitute feeding.

The breast milk from a healthy mother is rich in fat, containing 4 to 5 percent., together with 7 percent. of milk sugar and 1.25 percent. of proteid; and other things being equal, the fatter the child, the healthier it is. The child receives from mother's milk over and above that from artificially prepared foods the extra amount of fat which is necessary for the growing infant. This fat is necessary for the maintenance of its requisite heat. The heat of the body is largely lost by radiation and evaporation from the surface, and the child having about three times as much surface for radiation and evaporation as the adult, relatively speaking, the importance of maintaining the fat contents of its food is at once seen. The extra amount of fat is also needed for the child's nutrition on account of rapid growth of brain, nerves and bone marrow, all of which tissues contain a large amount of fat.

The infant's stomach rapidly enlarges, and where it is necessary to give artificial foods, the child is better adapted physically to such foods after the sixth or eighth week; in other words, can better digest properly modified cow's milk than earlier in infancy.

It is not only necessary or advisable for the welfare of the infant to receive mother's milk, but it is also best for the health of the mother, provided she is well, that the child should nurse.

The womb receives a certain amount of reflex stimulation to contraction from eight to ten times every twenty-four hours and is nature's way, or help in restoring the generative organs to a normal condition.

After the infant has nursed to its fill, it should be placed in a quiet, partly darkened room where it may sleep until it is again ready to nurse.

WEANING.

The average period of nursing is one year. The mother's milk usually begins to fall off in quality and quantity after the seventh or eighth month. The abundance and duration vary in different cases, according to the health and vigor of the woman. In normal conditions the quantity and quality increase for the first five or six months proportionately to the needs of the child's nutrition. In women who do not nurse, the secretions rapidly decline and soon cease altogether.

Under ordinary circumstances the baby should be weaned from the tenth to the twelfth month; but there is no ironclad rule to govern all cases. If an infant should be ten months or one year old at the beginning of summer, its mother healthy in every particular, furnishing abundance of milk which apparently furnishes ample nutrition, we would not advise weaning an infant at such a time. Neither would we advise weaning an infant during the summer months, especially if teething. If, however, the mother's health is failing, or if she has any disease, the child should be weaned at once, otherwise mother and infant will suffer. The process of weaning baby should be gradual, first, giving the little one food from bottle once daily, the balance of the time nursing at regular feeding time, and gradually increasing the number of bottle feedings, substituting the bottle for the breast and within a short time nursing may be stopped entirely.

If prepared infant foods are used one food may be entirely satisfactory in one case but not in another, therefore it is sometimes necessary to try several in order to find one that suits the baby.

If baby is bottle-fed never allow it to suck an empty bottle. The baby should be placed in the arms for nursing in the same position as if nursing at the breast. If the bottle is held in the hand it should be changed so that the neck of the bottle is always full. It may be necessary at times to remove the bottle from the mouth to admit air into the bottle.

In selecting a bottle get one with a large neck, or better still an open, wide-mouth cell. The cell can be filled without a funnel and cleaned without a brush; the interior can be wiped



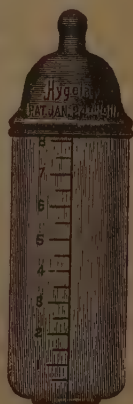
out with a towel the same as a drinking glass. The other portion of the bottle is rubber, consequently yielding and collapsible. Never use a bottle with a rubber tube. After each nursing the bottle should be washed in boiling water

to which has been added bicarbonate of soda or saleratus. The breast or nipple of the bottle should be thoroughly washed in the same manner. We would advise that two bottles

be purchased, as it is hardly safe to rely entirely upon one. The bottle should be thoroughly washed not only after feeding, but also immediately before.

The wide-mouthed Nursing Bottle which is illustrated here, is known as "Hygeia," and is manufactured and sold by the Hygeia Nursing Bottle Co., Inc., of Buffalo, N. Y. This bottle is so well known to us for its good qualities that we unhesitatingly recommend it to the mothers who read this book.

In Doctor Starr's "Hygiene of the Nursery," he states the change in the manner of feeding may be accomplished gradually or suddenly. In gradual weaning, about four weeks are required to prepare for the absolute withdrawal of the breast. For infants, if suck be given every three hours from five A. M. until eleven P. M., or seven times a day, there should be during the first week of preparation one artificial feeding and six nursings daily. During the second, two and five. During the third, four and three. During the fourth, six and one. Then the breast must be entirely withheld.



Carefully prepared milk food administered from a bottle is

the best substitute. At the age of ten months, a mixture that ordinarily agrees well is:

Cream,	1 tablespoonful.
Milk,	8 tablespoonfuls.
Sugar of Milk,	1 teaspoonful.
Water,	3 tablespoonfuls.

This is to be poured into a perfectly clean bottle, warmed in a water-bath and taken through a clean, plain rubber tip. Should the quantity of six fluid ounces be insufficient to satisfy the child's appetite, all the ingredients except the cream may be increased until the mixture measures eight or even twelve fluid ounces, according to the demand. When fever, disordered digestion with vomiting and diarrhea, or the actual cutting of one or more teeth occur during the period of preparation, the number of artificial feedings must be reduced, or the breast resumed until the disturbance be passed. Then the course may be begun again and carried to its completion.

When the baby is one year old, we can usually increase the diet by the use of some cereal, such as oatmeal, which has been cooked for two or three hours in a double boiler. Then may be added a soft-boiled egg (boiled one minute), or a poached egg, and a little stale bread which may be thinly buttered or soaked in gravy containing no fat, or in beef juice. Milk may be given in a glass; also, The "Allenbury's" Malted Food "No. 3," Horlick's Malted Milk, Mellin's Food. But this additional feeding should be gradual. Many times it is not well to give babies food in solid form until the eighteenth or twentieth month, but if a baby is allowed a small amount at the age of one year the diet may be increased gradually and by the time it is eighteen months old it may be fed well-baked potatoes, broths with rice or barley, and the white meat of chicken or rare roast beef, or beefsteak, rare—all of which should be well minced. A child at that age should have five meals a day. All cereals should be thoroughly cooked. Bread should be well baked. The principal meal should be at midday. The child should never be given indigestible, highly seasoned or made-over dishes. Fruits are excellent with the exception of bananas, which should seldom be given. As the child grows older the diet is gradually increased, so that at the age of three or four it partakes of the

same foods as an adult. When the child is sick, the diet should be left entirely to the family physician who can give all the information necessary regarding special and proper foods.

THE FOLLOWING INFORMATION AND TABLES OF MODIFIED MILK ARE TAKEN FROM DR. STARR'S "HYGIENE OF THE NURSERY."

Thickening substances—attenuants, such as barley-water, gelatine, or one of the digestible prepared foods, act purely mechanically by getting, as it were, between the particles of caseine during coagulation, preventing their running together and forming a large, compact mass.

When an "infant's food" is used to act mechanically, care should be taken to select one in which all the starch has been converted into maltose and dextrine by the Liebig process. The articles known as "Mellin's Food" and "Horlick's Food" can be relied upon. One teaspoonful of either dissolved in a tablespoonful of hot water and added to each portion of food makes a very easily digested mixture.

For the successful management of children the mother or nurse must not only be familiar with the theory of feeding, but must practically understand the methods of preparing food. To this end a schedule of the diet of an infant from birth upward, with a sketch of modifications that have to be made most frequently, will serve as a useful guide.

Diet during the first week:—

Cream,	2	teaspoonfuls.
Whey,	3	teaspoonfuls.
Water (hot),	3	teaspoonfuls.
Milk Sugar,	$\frac{1}{2}$	teaspoonful.

For each portion; to be given every two hours from 5 A. M. to 11 P. M., and in some cases once or twice at night; amounting to twelve fluid ounces of food per diem.

Diet from the second to sixth week:—

Milk,	1	tablespoonful.
Cream,	2	teaspoonfuls.
Milk Sugar,	$\frac{1}{2}$	teaspoonful.
Water,	2	tablespoonfuls.

For one portion; to be given every two hours, from 5 A. M. to 11 P. M.; amounting to seventeen fluid ounces of food per diem.

Diet from sixth week to the end of the second month:—

Milk,	2½	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	½	teaspoonful.
Water,	2½	tablespoonfuls.

For each portion; to be given every two hours; amounting to thirty fluid ounces per diem.

Diet from the beginning of the third month to the sixth month:—

Milk,	5	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	1	teaspoonful.
Water,	2	tablespoonfuls.

For each portion; to be given every two and a half hours, or thirty-two fluid ounces per diem.

Diet during the sixth month; six meals daily, from 7 or 8 A. M. to 9 or 10 P. M. Equivalent to thirty-six fluid ounces of food each day:—

Milk,	8	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	1	teaspoonful.
Hot Water,	3	tablespoonfuls.

Diet during the seventh month, six meals daily; amounting to thirty-nine fluid ounces of food per diem:—

Milk,	9	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	1	teaspoonful.
Water,	3	tablespoonfuls.

Throughout the eight and ninth months five meals a day will be sufficient. First meal at 7 A. M.:—

Milk,	12	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	1	teaspoonful.
Water,	3	tablespoonfuls.

Second meal at 10.30 P. M. Milk, cream and water in the same proportion; Mellin's Food, two teaspoonfuls. The food is
M. & B.—3

first dissolved in the water which must be hot, add this with stirring to the previously mixed milk and cream.

Third meal at 2 P. M.—same as second.

Fourth meal at 6 P. M.—same as second.

Fifth meal at 10 P. M.—same as first.

This gives forty fluid ounces of food per diem.

Instead of Mellin's Food, a teaspoonful of flour-ball may be added.

Two meals of flour-ball daily—the second and fourth—are all that can be digested. To prepare these, rub one teaspoonful of the powder with a tablespoonful of milk into a smooth paste, then add a second tablespoonful of milk, constantly rubbing until a cream-like mixture is obtained. Pour this into eight ounces of hot milk, stirring well, and it is then ready for use. The other meals should be composed of milk, cream, sugar of milk and water as already given.

Mellin's Food and flour-ball may be substituted by oatmeal or barley, or any one of the infants' foods in which the starch has been converted, by Liebig's process, into maltose and dextrine.

Diet from the tenth month to fourteenth month, five meals daily:—

Milk,	15	tablespoonfuls.
Cream,	1	tablespoonful.
Mellin's Food,	1	tablespoonful.
(Or flour-bar-		
ley jelly),	2	teaspoonfuls.
Water,	3	tablespoonfuls.

Occasionally, about the end of the first year, a child may require a more varied and substantial diet; for example:—

First meal, 7 A. M.—Milk mixture as above.

Second meal, 10.30 A. M.—A breakfast-cupful of warm milk (eight fluid ounces).

Third meal, 2 P. M.—The yolk of an egg lightly boiled, with stale bread crumbs.

Fourth meal, 6 P. M.—same as first.

Fifth meal, 10 P. M.—same as second.

On alternate days the third meal may consist of a teacupful (six fluid ounces) of beef, mutton, or chicken broth, containing a few stale bread crumbs.

As much more difficulty is experienced in feeding infants during the first twelve months than during the second, it would be well to pause here to consider what had best be done in case the food described should disagree.

If, after feeding, vomiting occurs, with the expulsion of large, firm clots of caseine, the effect of adding the lime water or barley water must be tried.

For instance, at the age of six weeks make each bottle of:—

Milk,	2½	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	½	teaspoonful.
Lime water,	2½	tablespoonfuls.

Or of:—

Milk,	2½	tablespoonfuls.
Cream,	1	tablespoonful.
Milk Sugar,	½	teaspoonful.
Barley water,	2½	tablespoonfuls.

Sometimes, particularly if there be diarrhea, boiling makes the milk more tolerable, and in this condition it may be used instead of fresh milk in either of the above mixtures. Condensed milk, too, can be employed temporarily, making each portion of:—

Condensed milk,	1	teaspoonful.
Cream,	1	tablespoonful.
Hot water,	5	tablespoonfuls.

Sometimes milk in any form, however carefully prepared, ferments soon after being swallowed and excites vomiting, or causes great flatulence and discomfort, while it affords little nourishment. With these cases the best plan is to withhold milk entirely for a time and try some other form of food.

The following are good substitutes:

Mellin's Food,	1	teaspoonful.
Hot water,	6	tablespoonfuls.

For each portion; to be given every two hours at the age of six weeks:—

Veal broth ($\frac{1}{2}$ lb. of	
meat to the pint),	3 tablespoonfuls.
Barley water,	3 tablespoonfuls.

For one portion:—

Whey,	3 tablespoonfuls.
Barley water,	3 tablespoonfuls.
Milk Sugar,	$\frac{1}{2}$ teaspoonful.

A teaspoonful of the juice of raw beef every two hours will usually be retained when everything else is rejected.

Such foods are only to be used temporarily until the tendency to fermentation within the alimentary canal ceases; then milk may be gradually and cautiously resumed.

When infants approaching the end of the first year become affected with indigestion, it is often sufficient to reduce the strength and quantity of the food to a point compatible with digestive powers. For instance, at eight months the food may be reduced to that proper for a healthy child at six months, or even less. Here, too, predigestion of the food is very serviceable.

THE FOLLOWING DIET-TABLES (FROM GRIFFITH—"THE CARE OF THE BABY") ARE INTENDED FOR THE AVERAGE HEALTHY CHILD.

As a guide for the feeding of a child of from twelve to eighteen months the following diet-list may be of service. The numbered menus indicate the choice that the mother may have, varying them so that the child will not tire of any.

Diet from one year to eighteen months:—

Breakfast, 6 to 7 A. M.—(1) Eight to 10 ounces of milk with stale bread broken in it. (2) Two to three tablespoonfuls of well-cooked porridge of oatmeal, arrowroot, wheaten grits, hominy grits, farina, etc., or one of the numerous good breakfast foods on the market, with 8 to 10 ounces of milk poured over it. (3) A soft-boiled or poached egg with bread broken in it, and a cup of milk.

Second meal, 10 A. M.—Eight to 10 ounces of milk from a cup or bottle.

Dinner, 1.30 to 2 P. M.—(1) Bread moistened with dish-gravy (no fat), beef-tea, or beef juice, 1 to 2 ounces; a cup of milk. (2) Rice or grits moistened in the same way; a cup of milk. (3) A soft-boiled egg and stale bread thinly buttered; a cup of milk. Sago, tapioca or rice pudding (no raisins), cornstarch or junket in small quantities as dessert with any of these diets.

Fourth meal, 5 to 6 P. M.—A cup of milk or some bread and milk.

Fifth meal, 9 to 10 P. M.—A cup or bottle of milk.

It is, of course, understood that the baby does not suddenly plunge into any such diet at twelve months, but that the list and the variety are only very gradually increased and that milk remains the principal article of diet.

Diet from eighteen months to two years.

Breakfast, 7 A. M.—(1) Eight to 10 ounces of milk with a slice of bread and butter or a soda, Graham, oatmeal or similar unsweetened biscuit. (2) A soft-boiled or poached egg with bread and butter and a cup of milk. (3) Porridge as described in the previous list.

Second meal, 10 A. M.—(1) Bread broken in milk. (2) Bread and butter or a soda or other biscuit with a cup of milk.

Dinner, 2 P. M.—(1) Boiled rice or a baked potato mashed and moistened with dish-gravy or beef-juice, 2 to 3 ounces; a glass of milk. (2) Six to 8 ounces of mutton or chicken broth with barley or rice in it; some bread and butter, zwieback or toast, and some cornstarch, custard, sago or rice pudding made with milk. (3) One-half to one tablespoonful of minced white meat of chicken or turkey, or minced rare roast-beef, beefsteak, lamb, mutton, or fish; bread and butter; a cup of milk.

Fourth meal, 5 to 6 P. M.—(1) Bread and milk. (2) Bread and butter and a cup of milk. (3) Two to three tablespoonfuls of a cereal porridge with 8 to 10 ounces of milk.

Diet from two to three years:—

Breakfast, 7 to 8 A. M.—(1) A small portion of beef-steak, with two to three tablespoonfuls of farina, oatmeal, hominy grits, wheaten grits, cornmeal, or other cereal porridge with plenty of milk or with 2 to 4 ounces of thin cream. (2) A soft-boiled or poached egg, bread and butter, and a cup of milk.

Second meal, 11 A. M.—(1) A cup of milk with bread and butter, or with a soda or other biscuit. (2) Bread and milk. (3) Six to 8 ounces of chicken or mutton broth.

Dinner, 2 P. M.—Roasted fowl, mutton, or beef cut fine; mashed baked potato with butter or dish-gravy on it; bread and butter; rice; macaroni. With more caution, trial can be made of asparagus tips, peas, spinach, and string beans. As dessert, tapioca, sago, or rice pudding, junket, or some of the fruits mentioned.

Supper, 6 P. M.—(1) Bread and butter. (2) Milk with soda or similar biscuit, or with bread and butter. (3) Three to four tablespoonfuls of a cereal porridge with 8 or more ounces of milk.

Foods permitted at from three to six years:—

Meats.—Broiled beef-steak, lamb chops and chicken; broiled liver; roasted or broiled beef, mutton, lamb, chicken and turkey; broiled or boiled fish; raw or stewed oysters.

Eggs.—Soft-boiled, poached, scrambled, omelette.

Cereals.—Light and not too fresh wheaten and Graham bread, toast, zwieback; plain unsweetened biscuit, as oatmeal, Graham, soda, water, etc.; hominy grits, wheaten grits, corn meal, barley, rice, oatmeal, maccaroni, etc.

Soups.—Plain soup and broth of nearly any kind.

Vegetables.—White potatoes, boiled onions, spinach, peas, asparagus, except the hard parts, string and other beans, salsify, lettuce, stewed celery, young beets, arrowroot, tapioca, sago, etc.

Fruits.—Nearly all, if stewed and sweetened; of raw fruits, peaches are one of the best; pears; well-ripened and

fresh raspberries, blackberries, grapes without the skin and seeds; oranges without the rind.

Desserts.—Light puddings, as rice pudding without raisins, bread pudding, etc., plain custards, wine jelly, junket, and occasionally ice cream.

FOODS TO BE TAKEN WITH CONSIDERABLE CAUTION.

Kidney, oysters, duck, muffins, hot rolls, sweet potatoes, baked beans, squash, turnips, parsnips, carrots, egg-plant, stewed tomatoes, green corn, cherries, plums, raw apples, strawberries, gooseberries, currants.

FOODS TO BE AVOIDED.

Fried foods of any kind, griddle cakes, pork, sausage, ham, goose, veal, corned beef, salt fish, highly seasoned food, pastry, all heavy, doughy, or very sweet puddings; unripe, sour or wilted fruit; bananas, pineapples, cucumbers, radishes, raw celery, raw tomatoes, cabbage, cauliflower, nuts, candies, sweet cakes, preserved fruits, jams, tea, coffee, alcoholic beverages.

SAMPLE PAMPHLET OF INFORMATION FOR DISTRIBUTION IN SUMMER.

Friedenwald & Ruhrah.

“DIET IN HEALTH AND DISEASE.”

Nurse the baby; mother's milk is the best of all foods.

Do not wean the baby in hot weather.

Remember that ten bottle-babies die to one that is breast-fed.

One-third of the deaths of infants and young children occur during the hot summer months.

Heat kills the baby chiefly by spoiling the milk given it.

Nurse the baby regularly, not oftener than two hours during the day and four hours at night.

Do not nurse the baby every time it cries.

If you cannot nurse your baby, consult your doctor before giving it the bottle.

Fresh Air.—Give the baby fresh air day and night.

Keep the windows open all day and all night.

Keep the baby out of doors as much as you can.

The out-door air is better for the baby than that of the house.

The air in the squares and parks is better than that of the streets.

Keep the rooms clean.

Do not let garbage, slop, or dirty clothes stand about the room.

Sleep.—Do not let the baby sleep in the same bed with any other person.

Keep the baby quiet and let it sleep as much as it will.

Do not handle the baby too much, let it alone.

Bathing.—Bathe the baby every day.

In very hot weather sponge the baby several times a day to keep it clean and cool.

Wash the baby whenever the diapers are changed.

Clothing.—The baby feels the heat as much or more than you.

In hot weather take off most of the baby's clothing.

If it becomes cool, the clothing can easily be put back.

If the baby has fever, take some of the clothing off, but do not put more on. A baby with fever will not catch cold.

Diapers.—Wash the diaper as soon as it is soiled and dry in the open air.

Do not use a diaper a second time before washing it.

Water.—In hot weather the baby needs a little more water and not so much food.

Give a few teaspoonfuls of pure boiled water several times a day.

Summer diarrhea is caused by spoiled milk or other food, bad air, dirt, and too much clothing, too much handling, too little sleep, too little water.

If the baby vomits or has loose bowels, *stop all food* and give plain boiled water until you have seen your doctor.

Do not drug the baby. If your baby is sick send for a doctor, or take it to a hospital or dispensary.

Do not ask your neighbor's advice about your baby, ask your doctor.

THE BOTTLE-FED BABY.

The Bottles.—Use a common round-bottomed bottle; boil or scald it each time before putting the baby's milk in it.

The Nipples.—Use plain black rubber nipples. Boil them once a day. Wash the nipples before and after each feeding. When not in use keep the nipples in a covered glass filled with water in which you have put a pinch of baking soda or borax.

Never use a nipple with a tube to it.

The Milk.—Get only the best milk for the baby. Better pay more for milk and save doctor bills, and possibly funeral expenses. It costs less to buy a baby good milk for a year than to bury it.

The best milk is bottled at the dairy and delivered in bottles. Milk sold from the can is apt to be dirty and unfit for use. Milk in summer from an open can in a shop is never fit to give a baby.

Milk from a herd is better than milk from one cow.

To Keep Milk.—Take it in as soon as delivered. As soon as possible mix the baby's milk. Place this in clean bottles and stopper with raw cotton.

Keep the milk cold—on ice if possible. If you have no ice, wrap a cloth wrung out in cold water about the bottles.

If you have difficulty in keeping milk, bring it to a boil as soon as it is delivered to you.

Keep the things for the baby's milk separate.

Keep the things clean.

Scald with boiling water before using.

Milk will spoil	{	If it is not kept cold. If it is not kept covered. If it is dirty. If it has been put in dirty bottles or cans. If it is measured in dirty cans. If it gets dust in it.
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OATMEAL, BARLEY OR RICE WATER.

Barley water is perhaps the one most frequently used and is employed to prevent the formation of large compact curds in milk for a bottle-fed baby.

In making any of the above take two tablespoonfuls of the grain, oatmeal, barley or rice, to which may be added a quart of water. This should be soaked over night, or for a few hours at least, but if in urgent need of same, the soaking may be dispensed with and the grain boiled five minutes. If soaked over night, the water in which the grain soaked should be poured off and fresh water added before cooking. Boil for several hours, add water in sufficient quantity from time to time to keep the quantity up to a quart, strain. This makes a thin watery gruel.

There are many prepared flours on the market and one of the best is Robinson's Barley Flour. Your grocer or druggist can order it, if not in stock; directions with each can. The usual method is from a dessert to a tablespoonful of the flour added to a pint of boiling water, boil fifteen to thirty minutes, strain. No previous soaking required.

HOW TO MAKE BEEF-JUICE.

Take one pound of round or tenderloin steak, free from fat. Cut into small pieces, season with a very little salt and broil slightly in a spider. The steak may be broiled in one or two large pieces, but should not be thoroughly cooked. It must be rare in order to get the right kind of beef-juice. After broiling, the steak may be cut into smaller pieces and the juice expressed with a meat press which may be purchased at nearly any hardware store. A lemon squeezer will answer the purpose if the other cannot be obtained. One pound of beef should give from two to four ounces of beef-juice.

LIME WATER.

If lime water is to be used for considerable time in the preparation of modified milk, it is quite an expense, therefore, may be made as follows:

Get a piece of unslacked lime about the size of an egg. Put this in one gallon of water in an earthen vessel, stir and allow it to settle. Pour off the first water and add fresh. Cover it to exclude dust. Use only from the top. Add water as fast as it is consumed, stir thoroughly, and allow it to settle before using again.

A smaller quantity of lime water than the above formula calls for can be made by adding a piece of unslacked lime the size of a walnut to one-half gallon of pure water.

Remember to use an earthen vessel and do not permit any unslacked lime to remain in the house where it may become wet, otherwise fire may result.

In modifying milk it is often necessary to use lime water in place of plain water to prevent curd (clotting) in the stool, diarrhea, etc. It is necessary to add more than a teaspoonful of lime water to the bottle, and to obtain desired results one-third part of the milk mixture must be lime water.

If lime water cannot be obtained a small pinch of bicarbonate of soda or salaratus may be added to each bottle.

Milk of Magnesia (Phillips'), five to fifteen drops, may be added to each feeding in place of lime water or bicarbonate of soda, and is preferable where a slight laxative effect is desired. If digestion is perfect, one-third of the extire mixture for each feeding may be plain water, previously boiled and cooled. Barley water, the formula of which may be found on another page, may be used for diluting or modifying cow's milk as a substitute for lime water, milk of magnesia, soda, or plain water.

OBSTETRICAL TABLE

Jan. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Oct. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
Feb. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
Nov. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5			
Mar. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Dec. . .	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5
April . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Jan. . .	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	
May. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Feb. . .	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7
June. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Mar. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	
April . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
July. . .	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7
April. .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
May. . .	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7
Aug. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
May. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
Sept. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
June. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	
Oct. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
July. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
Nov. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Aug. . .	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
Sept. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Dec. . .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Sept. . .	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7

As the normal term of pregnancy is about 10 lunar months or about 280 days, this table has been devised to show at a glance the beginning and end of every 280 day period throughout the year. Find the date of the last menstruation on the upper line of the horizontal row and the figure below with the indicated month, will be the 280th day.

PART II.

HYGIENE.

CHAPTER I.

HYGIENE DEFINED.—PURE AIR.

The object of hygiene is the *preservation of health*. Hitherto, we have considered, at some length, the science of functions, or *Physiology*, and now, under the head of *Hygiene*, we will give an outline of the means of maintaining the functional integrity of the system. It is difficult to avoid including under this head Preventive Medicine, the special province of which is to abate, remove, or destroy the many causes of disease.

The Greeks bestowed divine honors upon *Æsculapius*, because he remedied the evils of mankind and healed the sick. The word hygiene is derived from *Hygeia*, the name of the Greek goddess of health. As male and female are made one in wedlock, so Medicine and Hygiene, restoration and preservation, are inseparably united.

Hygiene inculcates sanitary discipline, medicine, remedial discipline; hygiene prescribes healthful agencies, medical theory and practice, medicinal agencies; hygiene ministers with salubrious and salutary agents, medicine assuages with rectifying properties and qualities; hygiene upholds and sustains, medical practice corrects and heals; the one is preservative and conservative, the other curative and restorative. These discriminations are as radical as health and sickness, as distinct as physiology and pathology, and to confound them is as unnatural as to look for the beauties of health in the chamber of sickness.

The true physician brings to his aid Physiology, Hygiene, and Medicine, and combines the science of the former with the art of the latter, that restoration may be made permanent, and the health preserved by the aid of hygiene. But when any one makes Hygiene exclusively the physician, or deals wholly in hygienic regulations with little respect for physiology, or lavishly advertises with hygienic prefixes, we may at once consider it a display, not of genuine scientific knowledge, but only of the ignorance of a quack. Some of the modern twaddle about health is a conglomeration of the poorest kind of trash, expressing and inculcating more errors and whims than it does common sense. Many persons dilate upon these subjects with amazing flippancy, their mission seeming to be to traduce the profession rather than to act as help-mates and assistants. We do not believe that there is any real argument going on between the educated members of the medical profession but rather that the senseless clamor we occasionally hear comes only from the stampede of some routed, demoralized company of quacks.

In the following pages we shall introduce to the reader's attention several important hygienic subjects, although there are many more that ought to receive special notice. Such as we do mention, demand universal attention, because a disregard of the conditions which we shall enumerate, is fraught with great danger. Our lives are lengthened or shortened by the observance or neglect of the rules of common sense, and these do not require any great personal sacrifice, or the practice of absurd precautions.

PURE AIR FOR RESPIRATION.

Ordinary atmospheric air contains nearly 2,100 parts of oxygen and 7,900 of nitrogen, and about three parts of carbonic acid, in 10,000 parts; expired air contains about 470 parts of carbonic acid, and only between 1,500 and 1,600 parts of oxygen, while the quantity of nitrogen undergoes little or no alteration. Thus air which has been breathed has lost about five per cent. of oxygen and has gained nearly five per cent. of carbonic acid. In addition the expired air contains a greater or less quantity of highly decomposable animal matter, and, however dry the atmospheric air may be, the

expired air is always saturated with watery vapor, and, no matter what the temperature of the external air may be, that of the exhaled air is always nearly as warm as the blood. An adult man on an average breathes about sixteen times in a minute and at every inspiration takes in about thirty cubic inches of air, and at every expiration exhales about the same amount. Hence, it follows that about $16\frac{2}{3}$ cubic feet of air are passed through the lungs of an adult man every hour, and deprived of oxygen and charged with carbonic acid to the amount of nearly five per cent. The more nearly the composition of the external air approaches that of the expired air, the slower will be the diffusion of carbonic acid outwards and of oxygen inwards, and the more charged with carbonic acid and deficient in oxygen will the blood in the lungs become. Asphyxia takes place whenever the proportion of carbonic acid in the external air reaches ten per cent., providing the oxygen is diminished in like proportion, and it does not matter whether this condition of the external air is produced by shutting out fresh air from a room or by increasing the number of persons who are consuming the same air; or by permitting the air to be deprived of oxygen by combustion by a fire. A deficiency of oxygen and an accumulation of carbonic acid in the atmosphere, produce injurious effects however, long before the asphyxiating point is attained. Headache, drowsiness, and uneasiness occur when less than one per cent. of the oxygen of the atmosphere is replaced by other matters, and the constant breathing of such an atmosphere lowers vitality and predisposes to disease.

Therefore, every human being should be supplied, by proper ventilation, with a sufficient supply of fresh air. Every adult individual ought to have at least 800 cubic feet of air-space to himself, and this space ought to communicate freely with the external atmosphere by means of direct or indirect channels. Hence, a sleeping-room for one adult person should not be less than nine by ten feet in breadth and length and nine feet in height. What occurred in the Black Hole at Calcutta is an excellent illustration of the effect of vitiated air. One hundred and forty-six Englishmen were confined in a room eighteen feet square, with two small windows on one side to admit air. Ten hours after their imprisonment, only twenty-three were alive.

Ventilation of School Rooms. The depression and faintness from which many students suffer, after being confined in a poorly ventilated school room, is clearly traceable to vitiated air, while the evil is often ascribed to excessive mental exertion. The effect of ventilation upon the health of students is a subject of universal interest to parents and educators, and at present is receiving the marked attention of school authorities. When trustees and patrons realize that pure air is absolutely essential to health, then they will construct our halls of learning with due regard for the laws of hygiene, and students will not droop on account of the absence of Nature's most bountiful gift, *pure air*. Dr. F. Windsor, of Winchester, Mass., made a few pertinent remarks upon this subject in the annual report of the State Board of Health of Massachusetts, 1874. One of the institutions, which was spoken of in the report of 1873, as a *model*, in the warming and ventilation of which much care had been bestowed, was visited in December, 1873. He reported as follows: "I visited several of the rooms, and found the air in all, offensive to the smell, the odor being such as one would imagine old boots, dirty clothes and perspiration would make if boiled down together;" again, in the new *model* school-house the hot air enters at two registers in the floor on one side, and makes (or is supposed to make) its exit by a ventilator at the floor, on the other side of the room." The master said "*the air was supposed to have some degree of intelligence, and to know that the ventilator was its proper exit.*"

Happily modern sanitary methods have greatly improved since 1874. We are living in a time of wonderful scientific investigation, and in these days of the Twentieth Century much attention is given by those in high authority to the proper ventilation of schools and factories. In remote places unsanitary methods may still prevail, but in our large cities and towns, and even in most villages, the Board of Health investigates all schools and public places, and medical inspection of every pupil in the schools has done much to modify conditions. In the factories also attention is paid to the

welfare and health of the employes, and these are regularly inspected by the Board of Health. Of course, there is always room for improvement, but there is no denying that there has been great advancement along sanitary lines. On farms also conditions have changed. Bath-rooms, telephones, rural free delivery, etc., make farm life much more agreeable and enjoyable.

Ventilation of Factories and Workshops.

This is a subject which demands the immediate attention of manufacturers and employers. The odors of oil, coal gas, and animal products, render the air foul and stagnant, and often give rise to violent diseases among the operatives. From two to four hundred persons are often confined in workshops six hundred feet long, with no means of ventilation except windows *on one side only*. The air is breathed and re-breathed, until the operatives complain of languor and headache, which they attribute to overwork. The *real* cause of the headache is the inhalation of foul air at every expansion of the lungs. If the proprietors would provide efficient means for ventilating their workshops, the cost of construction would be repaid with compound interest, in the better health of their operatives and the consequent increase of labor. Our manufacturers must learn and practice the great principle of political economy, namely, that the interests of the laborer and employer are mutual.

Ventilation of Our Dwellings. Not less important is the ventilation of our dwellings; each apartment should be provided with some channel for the escape of the noxious vapors constantly accumulating. Most of the tenements occupied by the poor of our cities are literally dens of poison. Their children inhale disease with their earliest breath. What wonder that our streets are filled with squalid, wan-visaged children! Charity, indeed, visits these miserable homes, bringing garments and food to their half-famished inmates; but she has been slow to learn that fresh air is just as essential to life as food or clothing. Care should be taken by the public authorities of every city, that its tenement houses do not degenerate into foul hovels, like those of the poor English laborer, so graphically portrayed by Dickens. But ill-ventilated rooms are not found exclusively in the abodes of the poor.

True, in the homes of luxury, the effect of vitiated air is modified by food, etc. Men of wealth give far more attention to the architecture and adornment of their homes, to costly decorations and expensive furniture, than to proper ventilation. Farmers, too, are careless in the construction of their cottages. Their dwellings are often built, for convenience, in too close proximity to the barn. Because they do not construct a suitable sewer, or drain, the filth and refuse food is thrown out of the back door, where it accumulates and undergoes putrefaction; the vitiated air penetrates the interior of the house, and, there being no means of ventilation, it remains to be breathed by the occupants. The result is, that for the sake of saving a few dollars, which ought to be expended in the construction of necessary flues and sewers, the farmer often sees the child he prizes far more than his broad acres gradually decline, or suddenly fall a victim to fevers or malignant disease. Parents, make your homes healthy, let in the pure, fresh air and bright sunlight, so that your conscience may never upbraid you with being neglectful of the health and lives of your little ones.

SITES FOR HOMES.

Malaria. When about to construct our residences, besides securing proper ventilation and adequate drainage, we ought to select the location for a home on dry soil. Low levels, damp surroundings, and marshy localities, as well as uncovered cisterns, rain barrels and small collections of water containing "wrigglers" not only breed the mosquito producing malaria, but also dampness that is a prolific cause of colds, coughs and consumption.

The mosquito has been proven to be the carrier of the malarial organism. This insect vaccinates the human being, as it were, with the germ called *plasmodium malaria*. After being introduced into the human blood by the sting of these insects it may under favorable conditions develop rapidly so that the blood corpuscles will be profoundly diseased by the numerous small micro-organisms that seem to prey upon the blood discs. The chill, fever, anæmia and weakness that result are due apparently to the poisonous effects of the malarial germ and to the great destruction of red corpuscles. The prevention

of malarial poisoning is rapidly accomplished by the destruction of the mosquitoes or by preventing their access to human habitations. The human being must avoid their sting—to avoid the consequent malarial poisoning. Proper screens to doors, piazzas and windows have proven effective and individuals have lived for months in the most deadly marshes without contracting malaria.

When exposed to insects of any kind use *Woodman's Comfort*: Mix two ounces of Olive oil; one dram each of Carbolic acid, Pennyroyal oil and Cedar oil; two drams each of Citronelle oil and Tr. Camphor; and one-half dram of Acetic acid. Smear face, neck and hands, and be careful not to rub off. When applied to a bite, it destroys its poison and heals the sore.

Care should be taken not to locate a dwelling where the natural currents of air, or high winds, will be likely to bring the poisonous mosquitoes from low lands. Certain brooks, boggy land, ponds, foggy localities, too much shade, are favorable to the development of these organisms. Then the walls of a building should be so constructed as to admit air between the exterior and interior surfaces, otherwise the interior of the house will be damp and unwholesome. In the dead of winter, in northern latitudes, the house ought to be kept slightly tempered with warmth, both night and day, a condition very favorable to the introduction and change of atmospheric currents. The invigorating tendencies of a dry, pure atmosphere are remarkably beneficial, while air charged with moisture and decay is exceedingly baneful, introducing diseases under various forms.

Neither should the dwelling be shaded by dense foliage. The dampness of the leaves tends to attract mosquitoes. Trees growing a little distance from the house, however, obstruct the transmission of unhealthy vapors arising beyond them.

Damp Cellars are a fruitful cause of disease. Dr. Sanford B. Hunt writes of an epidemic in New York City: "The exempt districts have natural or artificial drainage and good sewerage. In the tenement houses and on the made lands where running streams have been filled in and natural springs choked up by earth fillings, diphtheria finds a nidus in which to develop itself. The sanitary map coincides precisely with the

topographic map made by Gen. Viele. Where he locates buried springs and water-courses, there we find the plague spots of diphtheria, and in the same places, on previous maps prepared by the Board of Health, we find other low types and stealthy diseases, such as typhoid and irruptive fevers, and there we shall find them again when the summer and autumnal pestilences have yielded place to those which belong to the indoor poisoned air in the winter. The experience of other cities, notably London and Dublin, once plague spots and now as healthy as any spot on earth, proves that most of the causations of disease are within the control of the competent sanitary engineer, even in localities crowded beyond American knowledge, and houses built upon soil saturated for centuries with the offal of successive and uncleanly generations. Wet earth, kept wet by the boiling up of imprisoned springs, is a focus of disease. Dry earth is one of the most perfect deodorizers, the best of oxydizers and absorbents, destroying the germs of disease with wonderful certainty. On those two facts rests the theory of public hygiene."

DUST AND DISEASE.

The air we breathe is heavily loaded with minute particles of floating dust, their presence being revealed only by intense local illumination. Professor Tyndall says: "Solar light, in passing through a dark room, reveals its track by illuminating the dust floating in the air. 'The sun,' says Daniel Culverwell, 'discovers atoms, though they be invisible by candle-light, and makes them dance naked in his beams.'"

After giving the details and results of a series of experiments in which he attempted to extract the dust from the air of the Royal Institute by passing it through a tube containing fragments of glass wetted with concentrated sulphuric acid, and thence through a second tube containing fragments of marble wetted with a strong solution of caustic potash, which experiments were attended with perfect failure, the Professor continues, "I tried to intercept this floating matter in various ways; and on the day just mentioned, prior to sending the air through the drying apparatus, I carefully permitted it to pass over the tip of a spirit-lamp flame. The floating matter no longer appeared, having been burnt up by the flame. It was,

therefore, of *organic origin*. I was by no means prepared for this result; for I had thought that the dust of our air was, in great part, inorganic and non-combustible." In a foot note he says, "according to an analysis kindly furnished me by Dr. Percy, the dust collected *from the walls* of the British Museum contains fully fifty per cent. of inorganic matter. I have every confidence in the results of this distinguished chemist; they show that the *floating* dust of our rooms is, as it were, winnowed from the heavier matter." Again he says: "The air of our London rooms is loaded with this organic dust, nor is the country air free from its presence. However ordinary daylight may permit it to disguise itself, a sufficiently powerful beam causes dust suspended in air to appear almost as a semi-solid. Nobody could, in the first instance, without repugnance, place the mouth at the illuminated focus of the electric beam and inhale the thickly-massed dust revealed there. Nor is the repugnance abolished by the reflection that, although we do not see the floating particles, we are taking them into our lungs every hour and minute of our lives." "The notion was expressed by Kircher and favored by Linnæus, that epidemic diseases are due to germs which float in the atmosphere, enter the body, and produce disturbance by the development within the body of parasitic life. While it was struggling against great odds, this theory found an expounder and a defender in the President of this institution. At a time when most of his medical brethren considered it a wild dream, Sir Henry Holland contended that some form of the germ-theory was probably true." Professor Tyndall proposes means by the application of which air loaded with noxious particles may be freed from them before entering the air passages. The following embodies his suggestions on this point:

COTTON-WOOL RESPIRATOR.

"I now empty my lungs as perfectly as possible, and placing a handful of cotton-wool against my mouth and nostrils, inhale through it. There is no difficulty in thus filling the lungs with air. On expiring this air through a glass tube, its freedom from floating matter is at once manifest. From the very beginning of the act of expiration the beam is pierced by a black aperture. The first puff from the lungs abolishes

the illuminated dust, and puts a patch of darkness in its place; and the darkness continues throughout the entire course of the expiration. When the tube is placed below the beam and moved to and fro, the same smoke-like appearance as that obtained with a flame is observed. *In short, the cotton-wool, when used in sufficient quantity, and with due care, completely intercepts the floating matter on its way to the lungs.*

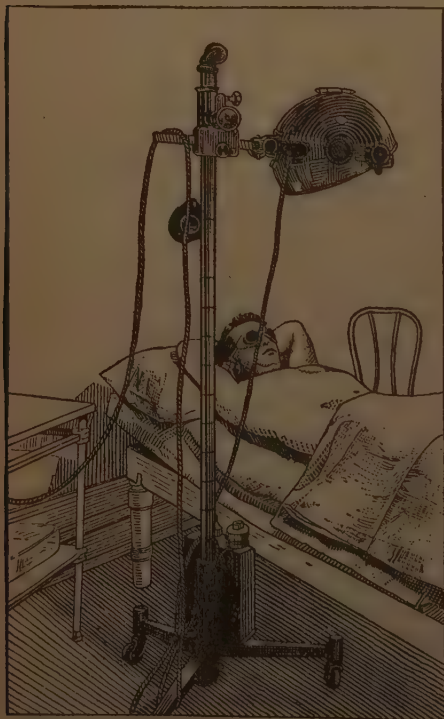
The application of these experiments is obvious. If a physician wishes to hold back from the lungs of his patient, or from his own, the germs or virus by which contagious disease is propagated, he will employ a cotton-wool respirator. If perfectly filtered, attendants may breathe the air unharmed. In all probability the protection of the lungs and mouth will be the protection of the entire system. For it is exceedingly probable that the germs which lodge in the air-passages, or find their way with the saliva into the stomach with its absorbent system, are those which sow in the body epidemic disease. If this be so, then disease can be warded off by carefully prepared filters of cotton-wool. I should be most willing to test their efficacy in my own person. But apart from all doubtful applications, it is perfectly certain that various noxious trades in England may be rendered harmless by the use of such filters. I have had conclusive evidence of this from people engaged in such trades. A form of respirator devised by Mr. Garrick, a hotel proprietor in Glasgow, in which inhalation and exhalation occur through two different valves, the one permitting the air to enter through the cotton-wool, and the other permitting the exit of the air direct into the atmosphere, is well adapted for this purpose. But other forms might readily be devised."

SUNLIGHT AND HEALTH.

Our dwellings ought freely to admit the sunlight. Diseases which have baffled the skill of physicians have been known to yield when the patients were removed from dark rooms to light and cheerful apartments. Lavoisier placed light, as an agent of health, even before pure air. Plants which grow in the shade are slender and weak, and children brought up in dark rooms are pale, sallow, and rickety. It is a bad practice to avoid the sunlight through fear of spoiling the complexion,

since the sun's rays are necessary to give to it the delicate tints of beauty and health. Air is necessary for the first inspiration and the last expiration of our lives, but the purity and healthfulness of the atmosphere depend upon the warming rays of the sun, while our bodies require light in order that their functions may be properly performed. We know that without solar light, there can be no proper vegetable growth, and it is equally necessary for the beauty and perfection of animal development. Our dwellings should therefore be well lighted and made as bright and cheerful as possible. Women who curtain the windows, soften the light, and tint the room with some mellow shade, may do so in order to hide their own faulty complexions. The skin of persons confined in dungeons or in deep mines

becomes pale or sickly yellow, the blood grows watery, the skin blotches, and dropsy often intervenes. On the other hand, invalids carried out from darkened chambers into the bright sunlight are stimulated, the skin browns, nutrition becomes more active, the blood improves, and they become convalescent. Light is especially necessary for the healthy growth of children. There is nothing more beautiful and exhilarating than the glorious sunlight. Let its luminous, warming and physiological forces come freely into our dwellings, enter into the chemistry of life, animate the spirits, and pervade our homes and our hearts with its joy-inspiring and health-imparting influences.



ALPINE LAMP—The new substitute for sunlight used in the treatment of disease at Dr. Pierce's Invalids Hotel.

CHAPTER II.

FOOD. BEVERAGES. AL- COHOLIC LIQUORS. CLOTHING.

The human body is continually undergoing changes, which commence with the earliest dawn of existence and end only with death. The old and worn-out materials are constantly being removed to make room for the new. Growth and development, as well as the elimination of worn-out and useless matter, continually require new supplies, which are to be derived from our food. To fulfill these demands it is necessary that the nutriment should be of the proper quality, and of sufficient variety to furnish all the constituents of the healthy body. In order that food may be of utility, like other building materials, it must undergo preparation; the crude substance must be worked up into proper condition and shape for use, in other words, it must be *digested*. But this does not end the process of supply, each different substance must be taken by the different bands of workmen, after due preparation in the workshop, to its appropriate locality in the structure, and there fitted into its proper place; this is *assimilation*. In reality it becomes a portion of the body, and is advantageous in maintaining the symmetry and usefulness of the part to which it is assigned; this constitutes the ultimate object of food, *nutrition*.

Eating is the process of receiving the food into the mouth, *i. e.*, *prehension*; *mastication* and *insalivation*—minutely dividing and mixing it with the saliva; *deglutition*—conveying it to the stomach. Plenty of time should be taken

at meals to thoroughly masticate the food and mix it with the saliva, which, being one of the natural solvents, favors its farther solution by the juices of the stomach; the healthy action of the digestive powers is favored by tranquillity of mind, agreeable associations, and pleasant conversation while eating. It is proverbial of the American people that they bolt their food whole, washing it down with various fluids, thus forcing the stomach to perform not only its own duties, but also those of the teeth and salivary glands. This manner of dispatching food, which should go through the natural process above described, is not without its baleful consequences, for the Americans are called a nation of *dyspeptics*.

Eating slowly, masticating the food thoroughly, and drinking but moderately during meals, will allow the juices of the stomach to fulfill their proper function, and healthy digestion and nutrition will result. If the food is swallowed nearly whole, not only will a longer time be required for its solution, but frequently it will ferment and begin to decay before nutritive transformation can be effected, even when the gastric juice is undiluted with the fluids which the hurried eater imbibes during his meal.

Regularity of Meals cannot be too strongly insisted upon. The stomach, as well as other parts of the body, must have intervals of rest or its energies are soon exhausted, its functions impaired, and *dyspepsia* is the result. Nothing of the character of food should ever be taken except at regular meal times. Some persons are munching cakes, apples, nuts, candies, etc., at all hours, and then wonder why they have weak stomachs. They take their meals regularly, and neither eat rapidly nor too much, and yet they are troubled with indigestion. The truth is they keep their stomachs almost constantly at work, and hence tired out, which is the occasion of the annoyance and distress they experience.

Eating too much. It should always be remembered that the nutrition of our bodies does not depend upon the amount eaten, but upon the amount that is digested. Eating too much is nearly as bad as swallowing the food whole. The stomach is unable to digest all of it, and it ferments and gives rise to unpleasant results. The unnatural distension of the stomach with food causes it to press upon the neighboring

organs, interfering with the proper performance of their functions, and, if frequently repeated, gives rise to serious disease. People more frequently eat too much than too little, and to omit a meal when the stomach is slightly deranged is frequently the best medicine. It is an excellent plan to rise from the table before the desire for food is quite satisfied.

Late Suppers. It is generally conceded that late suppers are injurious, and should never be indulged in. Persons who dine late have little need of food after their dinner, unless they are kept up until a late hour. In such cases a moderate meal may be allowed, but it should be eaten two or three hours before retiring. Those who dine in the middle of the day should have supper, but sufficiently early so that a proper length of time may elapse before going to bed, in order that active digestion may not be required during sleep. On the other hand, it is not advisable to go wholly without this meal, but the food eaten should be light, easily digestible, and moderate in quantity. Persons who indulge in hearty suppers at late hours, usually experience a poor night's rest, and wake the next morning unrefreshed, with a headache and a deranged stomach. Occasionally more serious consequences follow; gastric disorders result, apoplexy is induced; or, perhaps, the individual never wakes.

Feeding Infants. For at least six or seven months after birth, the most appropriate food for an infant is its mother's milk, which, when the parent is healthy, is rich in all the elements necessary for its growth and support. Next to the mother's milk, that of a healthy nurse should be preferred; in the absence of both, milk from a cow that has recently calved is the most natural substitute, in the proportion of one part water to two parts milk, slightly sweetened. The milk used should be from but one cow. All sorts of paps, gruels, panadas, cordials, laxatives, etc., should be strictly prohibited, for their employment as food cannot be too severely censured. Vomiting, diarrhea, colic, green stools, griping, etc., are the inevitable results of their continued use. The child should be fed at regular intervals, of about two hours, and be limited to a proper amount each time, which, during the first month, is about two ounces. From 11 P. M. to 5 A. M. the child should be nursed but once. As the child grows older the

intervals should be lengthened, and the amount taken at a time gradually increased. The plan of gorging the infant's stomach with food every time it cries, cannot be too emphatically condemned.

After the sixth or seventh month, in addition to milk, bits of bread may be allowed, the quantity being slowly increased, thus permitting the diet to change gradually from fluid to solid food, so that, when the teeth are sufficiently developed for mastication, the child has become accustomed to various kinds of nourishment. Over-feeding, and continually dosing the child with cordial, soothing syrups, etc., are the most fruitful sources of infant mortality, and should receive the condemnation of every mother in the land.

Preparation of Food. The production of pure blood requires that all the food selected should be rich in nutritious elements, and well cooked. To announce a standard by which all persons shall be guided in the selection and preparation of their food is impossible. Especially is this the case in a country the inhabitants of which represent almost every nation on the face of the globe. Travelers are aware that there is as much diversity in the articles of food and methods of cookery, among the various nationalities, as in the erection of their dwellings, and in their mental characteristics. In America we have a conglomeration of all these peoples; and for a native American to lay down rules of cookery for his German, French, English, Welsh, and Irish neighbors, or *vice versa*, is useless, for they will seldom read them, and, therefore, cannot profit by them. There are, however, certain conditions recognized by the hygienic writers of every nation. The adequate nutrition of the organic tissues demands a plentiful supply of pure blood, or the digestive apparatus will become impaired, the mental processes deranged, and the entire bony and muscular systems will lose their strength and elasticity and be incapacitated for labor.

Different Kinds of Food Required. The different periods and circumstances of life require their appropriate food, and the welfare of mankind demands that it should supply both the inorganic and organic substances employed in the development of every tissue. The inorganic elements employed in our construction, of which *Phosphorus, Sulphur, Soda, Iron,*

Lime, and *Potash* are the most important, are not considered as aliments, but are found in the organic kingdom, variously arranged and combined with organic materials in sufficient quantities for ordinary purposes. When, however, from any cause, a lack of any of these occurs, so that their relative normal proportions are deranged, the system suffers, and restoration to a healthy condition can only be accomplished by supplying the deficiency; this may be done by selecting the article of food richest in the element which is wanting, or by introducing it as a medicine. It must be remembered that those substances which enter into the construction of the human fabric, are not promiscuously employed by nature, but that each and every one is destined to fulfill a definite indication.

Lime enters largely into the formation of bone, either as a *phosphate* or a *carbonate*, and is required in much greater quantities in early life, while the bone is undergoing development, than afterwards. In childhood the bones are composed largely of animal matter, being pliable and easily moulded. For this reason the limbs of young children bend under the weight of their bodies, and unless care is taken they become bow-legged and distorted. Whenever there is a continued deficiency of the earthy constituents, disease of the bones ensues. Therefore, during childhood, and particularly during the period of dentition, or teething, the food should be nutritious and at the same time contain a due proportion of lime, which is preferable in the form of a phosphate. When it cannot be furnished by the food, it should be supplied artificially. Delayed, prolonged, and tedious dentition generally arises from a deficiency of lime.

With the advance of age it accumulates, and the bone becomes hard, inelastic, and capable of supporting heavy weights. Farther on, as in old age, the animal matter of bone becomes diminished, and lime takes its place, so that the bones become brittle and are easily broken. Lime exists largely in hard water, and to a greater or less extent in milk, and in nearly all foods except those of an acid character.

Phosphorus exists in various combinations in different parts of the body, particularly in the brain and nervous system. Persons who perform a large amount of mental labor require more phosphorus than those engaged in other pursuits. It

exists largely in the hulls of wheat, in fish, and in eggs. It should enter to a considerable extent into the diet of brain workers, and the bread consumed by them should be made of unbolted flour.

Sulphur, *Iron*, *Soda*, and *Potash* are all necessary in the various tissues of the body, and deficiency of any one of them, for any considerable length of time, results in disease. They are all supplied, variously arranged and combined, in both animal and vegetable food; in some articles they exist to a considerable extent, in others in much smaller quantities. *Sulphur* exists in eggs and in the flesh of animals, and often in water. *Iron* exists in the yolk of eggs, in flesh, and in several vegetables. *Soda* is supplied in nearly all food, and largely in common salt; which is a composition of sodium and hydrochloric acid, the latter entering into the gastric juice. *Potash* exists, in some form or other, in sufficient quantities for health, in both vegetable and animal food.

Classes of Food. All kinds of food substances may be divided into four classes: *Proteids*, *Fats*, *Amyloids*, and *Minerals*. Proteids are composed of the four elements, carbon, hydrogen, oxygen, and nitrogen, sometimes combined with sulphur and phosphorous. In this class are included the *gluten* of flour; the *albumen*, or white of eggs; and the *serum* of the blood; the *fibrin* of the blood; *syntonin*, the chief constituent of muscle and flesh, and *casein*, one of the chief constituents of cheese, and many other similar, but less frequent substances.

Fats are composed of carbon, hydrogen, and oxygen only, and contain more hydrogen than would be required to form water if united with the oxygen which they contain. All vegetable and animal oils and fatty matters are included in this class.

Amyloids consist of substances which are also composed of carbon, oxygen, and hydrogen only; but they contain just enough hydrogen to produce water when combined with their oxygen, or two parts of hydrogen to one of oxygen. This division includes *sugar*, *starch*, *dextrine*, and *gum*. The above three classes of food-stuffs are only obtained through the activity of living organisms, vegetable or animal, and have been, therefore, appropriately termed by Prof. Huxley, *vital food-stuffs*.

The mineral food-stuffs may, as we have seen, be procured from either the living or the non-living world. They include water and various earthy, metallic, and alkaline salts.

Variety of Food Necessary. No substance can serve permanently for food except it contains a certain quantity of proteid matter in the shape of albumen, fibrin, casein, etc., and, on the other hand, any substance containing proteid matter in a shape in which it can be readily assimilated may serve as a permanent vital food-stuff. Every substance, which is to serve as a permanent food, must contain a sufficient quantity, ready-made, of this most important and complex constituent of the body. In addition, it must also contain a sufficient quantity of the mineral ingredients which enter into the composition of the body. Its power of supporting life and maintaining the weight and composition of the body remains unaltered, whether it contains fats or amyloids or not. The secretion of urea, and, consequently, the loss of nitrogen, goes on continually, and the body, therefore, must necessarily waste unless the supply of proteid matter is constantly renewed, since this is the only class of foods that contains nitrogen in any considerable quantity. There can be no absolute necessity for any other food-stuffs but those containing the proteid and mineral elements of the body. From what has been said, it will readily be seen that whether an animal be carnivorous or herbivorous, it begins to starve as soon as its vital food-stuffs consist only of amyloids, or fats, or both. It suffers from what has been termed *nitrogen starvation*, and if proteid matters are withheld entirely, it soon dies. In such a case, and still more in the case of an animal which is entirely deprived of vital food, the organism, as long as it continues to live, feeds upon itself, the waste products necessarily being formed at the expense of its own body.

Although proteid matter is the essential element of food, and under certain circumstances may be sufficient of itself to support the body, it is a very uneconomical food. The white of an egg, which may be taken as a type of the proteids, contains about fifteen per cent. of nitrogen, and fifty-three per cent. of carbon; therefore, a man feeding upon this, would take in about three and a half times as much carbon as nitrogen. It has been proved that a healthy, adult man, taking a

fair amount of exercise and maintaining his weight and body temperature, eliminates about thirteen times as much carbon as nitrogen. However, if he is to get his necessary quantity, about 4,000 grains of carbon, out of albumen, he must eat 7,547 grains of that substance; but this quantity of albumen contains nearly four times as much nitrogen as he requires. In other words, it takes about four pounds of lean meat, free from fat, to furnish 4,000 grains of carbon, the quantity required, whereas one pound yields the requisite quantity of nitrogen. Thus a man restricted exclusively to a proteid diet, must take an enormous quantity of it. This would involve a large amount of unnecessary physiological labor, to comminute, dissolve, and absorb the food, and to excrete the superfluous nitrogenous matter. Unproductive labor should be avoided as much in physiological as in political economy. The universal practice of subsisting on a mixed diet, in which proteids are mixed with fats or amyloids, is therefore justifiable.

Fats contain about 80 per cent. of carbon, and amyloids about 40 per cent. We have seen that there is sufficient nitrogen in a pound of meat free from fat, to supply a healthy adult man for twenty-four hours, but that it contains only one-fourth of the quantity of carbon required. About half a pound of fat, or a pound of sugar, will supply the quantity of carbon necessary. The fat, if properly subdivided, and the sugar, by reason of its solubility, pass with great ease into the circulation, the physiological labor, consequently, being reduced to a minimum.

Several common articles of diet contain in themselves all the necessary elements. Thus, butchers' meat ordinarily contains from 30 to 50 per cent. of fat; and bread contains the proteid, gluten, and the amyloids, starch and sugar, together with minute quantities of fat. However, on account of the proportion in which these proteid and other components of the body exist in these substances, neither of them, by itself, is such a physiologically economical food, as it is when combined with the other in the proportion of three to eight, or three-quarters of a pound of meat to two pounds of bread a day.

It is evident that a variety of food is necessary for health. Animals fed exclusively upon one class, or upon a single article

of diet, droop and die; and in the human family we know that the constant use of one kind of diet causes disgust, even when not very long continued. Consequently, we infer that the welfare of man demands that his food be of sufficient variety to supply his body with all of its component parts. If this is not done the appetite is deranged, and often craves the very article which is necessary to supply the deficiency. After the component parts of the organism have assimilated the nutritious elements of particular kinds of food for a certain length of time, they lose the power of effecting the necessary changes for proper nutrition, and a supply of other material is imperatively demanded. When the diet has been long restricted to proteids, consisting largely of salt meats, fresh vegetables and fruits containing the organic acids, become indispensable; otherwise, the scorbutic condition, or scurvy, is almost sure to be developed. Fresh vegetables and fruits should be eaten in considerable quantities at the proper seasons.

Value of Animal Food. The principal animal food used in this country consists of *Pork, Mutton, Beef, and Fish*. Beef and mutton are rich in muscle-producing material. Although pork is extensively produced in some portions of this country, and enters largely into the diet of some classes, yet its use, except in winter, is not to be encouraged. The same amount of beef would give far greater returns in muscular power.

In addition to the meats mentioned, *Wild Game* furnishes palatable, nutritious, and easily-digested food. *Domestic Fowls*, when young, are excellent, and with the exception of geese and ducks, are easily digested. *Wild Birds* are considered much healthier food than those which are domesticated. All of these contain more or less of the elements which enter into the composition of the four classes of foods.

Vegetable Foods. *Wheat* is rich in all the elements which compose the four classes, and, when the flour is unbolted, it is one of the best articles for supplying all the elements.

Barley stands next to wheat in nourishing qualities, but is not so palatable.

Oats are rich in all the elements necessary for nutrition.

Oat-meal is a favorite article of diet among the Scotch, and, judging from their hardy constitutions, their choice is well founded. In consequence of the large proportion of phosphorus which they contain, they are capable of furnishing a large amount of nourishment for the brain.

Rye is nutritious, but it is not so rich in tissue-forming material.

Indian Corn is an article well known and extensively used throughout the United States, and is a truly valuable one, capable of being prepared in a great variety of ways for food. It contains more carbon than wheat, and less nitrogen and phosphorus, though enough of both to be extremely valuable.

Rice is rather meagre in nutriment, it contains but little phosphorous matter, with less carbon than other cereals, and is best and most generally employed as a diet in tropical countries.

Beans and Peas are rich in nutritious matter, and furnish the manual laborer with a cheap and wholesome diet.

The *Potato* is the most valuable of all fresh vegetables grown in temperate climates. Its flavor is very agreeable, and it contains very important nutritive and medicinal qualities, and is eaten almost daily by nearly every family in North America. Until very recently it, with the addition of a little butter-milk or skim-milk, constituted almost the sole diet of the Irish people. The average composition of the potato is stated by Dr. Smith to be as follows: Water 75 per cent., nitrogen 2.1, starch 18.8, sugar 3.2, fat 0.2, salts 0.7. The relative values of different potatoes may be ascertained very correctly by weighing them in the hand, for the heavier the tuber the more starch it contains.

Turnip and Cabbage are 92.5 per cent. water, and, consequently, poor in nutrition, though they are very palatable. The solid portions of cabbage, however, are rich in albumen.

It is evident that the quantity necessary to maintain the system in proper condition must be greatly modified by the habits of life, the condition of the organism, the age, the sex, and the climate. The daily loss of substance which must be replaced by material from without as we have seen, is very great. In addition to the loss of carbon and nitrogen, about

four and a half pounds of water are removed from the system in twenty-four hours, and it is necessary that about this quantity should be introduced into the system in some form or other, however much it may be adulterated. Professor Dalton states: "From experiments performed while living on an exclusive diet of bread, fresh meat, and butter, with coffee and water for drink, we have found that the entire quantity of food required during twenty-four hours by a man in full health and taking free exercise in the open air is as follows:

Meat,	16 oz., or 1.03 lb. avoird.
Bread,	19 " 1.19 " "
Butter or fat,	3½ " 0.22 " "
Water,	52 fluid oz., 3.38 " "

That is to say, rather less than two and a half pounds of solid food, and rather over three pounds of liquid food."

Climate exerts an important influence on the quantity and quality of food required by the system. In northern latitudes the inhabitants are exposed to extreme cold and require an abundant supply of food, and especially that which contains a large amount of fat. On this account fat meat is taken in large quantities and with a relish. The quantity of food consumed by the natives of the Arctic zone is almost incredible. The Russian Admiral, Saritcheff, relates that one of the Esquimaux in his presence devoured a mass of boiled rice and butter which weighed twenty-eight pounds, at a single meal, and Dr. Hayes states that usually the daily ration of an Esquimau is from twelve to fifteen pounds of meat, one-third of which is fat, and on one occasion he saw a man eat ten pounds of walrus flesh at a single meal. The intense cold creates a constant craving for fatty articles of food, and some members of his own party were in the habit of drinking the contents of the oil-kettle with great apparent relish.

Digestibility of Food. Unless an article of diet can be digested it is of no value, no matter how rich it may be in nutriment. The quantity of food taken, will influence to a considerable extent, the time consumed in its digestion. The stomachs of all are not alike in this respect, and the subject

of time has been a difficult one to determine. The experiments of Dr. Beaumont with the Canadian, St. Martin, who accidentally discharged the contents of a loaded gun into his stomach, creating an external opening through which the process of digestion could be observed, have furnished us with the following table, which is correct enough to show relatively, if not absolutely, the time required for the digestion of various articles:

ARTICLES OF DIET.	Mode of Preparation.	Hours.	Min.
Milk	Boiled.....	2	00
"	Raw.....	2	15
Eggs, fresh.....	"	2	00
"	Whipped	1	30
"	Roasted	2	15
"	Soft boiled	3	00
"	Hard boiled	3	30
"	Fried.....	3	30
Custard	Baked.....	2	45
Codfish, cured, dry.....	Boiled.....	2	00
Trout, salmon, fresh.....	"	1	30
"	Fried.....	1	30
Bass, striped,	Broiled.....	3	00
Flounder,	Fried.....	3	30
Catfish,	"	3	30
Salmon, salted	Boiled.....	4	00
Oysters, fresh.....	Raw.....	2	55
"	Roasted	3	15
"	Stewed	3	30
Venison steak.....	Broiled.....	1	35
Pig, sucking.....	Roasted	2	30
Lamb, fresh.....	Broiled.....	2	30
Beef, fresh, lean, dry.....	Roasted	3	30
" with mustard, etc.....	Boiled.....	3	10
" " salt only	"	3	36
"	Fried.....	4	00
" fresh, lean, rare	Roasted	3	00
Beefsteak	Broiled.....	3	00
Mutton, fresh.....	"	3	00
"	Boiled.....	3	00
"	Roasted	3	15
Veal, fresh.....	Broiled.....	4	00
"	Fried.....	4	30
Porksteak	Broiled.....	3	15
Pork, fat and lean.....	Roasted	5	15
" recently salted	Raw.....	3	00
"	Stewed.....	3	00
"	Broiled.....	3	15

ARTICLES OF DIET.	Mode of Preparation.	Hours.	Min.
Pork, recently salted	Fried	4	15
“ “ “	Boiled	4	30
Turkey, wild	Roasted	2	18
“ tame	“	2	30
“ “	Boiled	2	25
Goose, wild	Roasted	2	30
Chickens, full-grown	Fricassee	2	45
Fowls, domestic	Boiled	4	00
“ “	Roasted	4	00
Ducks, tame	“	4	00
“ wild	“	4	30
Soup, barley	Boiled	1	30
“ bean	“	3	00
“ chicken	“	3	00
“ mutton	“	3	30
“ oyster	“	3	30
“ beef, vegetables, and bread	“	4	00
“ marrow-bones	“	4	15
Pig's feet, soured	“	1	00
Tripe, soured	“	1	00
Brains, animal	“	1	45
Spinal marrow, animal	“	2	40
Liver, beef, fresh	Broiled	2	00
Heart, animal	Fried	4	00
Cartilage	Boiled	4	15
Tendon	“	5	30
Hash, meat, and vegetables	Warmed	2	30
Sausage, fresh	Broiled	3	20
Gelatine	Boiled	2	30
Cheese, old, strong	Raw	3	30
Green corn and beans	Boiled	3	45
Beans, pod	“	2	30
Parsnips	“	2	30
Potatoes	Roasted	2	30
“	Baked	2	30
“	Boiled	2	30
Cabbage, head	Raw	2	30
“ “ with vinegar	“	2	00
“ “	Boiled	4	30
Carrot, orange	“	3	13
Turnips, flat	“	3	30
Beets	“	3	45
Bread, corn	Baked	3	15
“ wheat, fresh	“	3	30
Apples, sweet, mellow	Raw	1	30
“ sour, “	“	2	00
“ “ hard	“	2	50

Milk is more easily digested than almost any other article of food. It is very nutritious, and, on account of the variety

of the elements which it contains, it is extremely valuable as an article of diet, especially when the digestive powers are weakened, as in fevers, or during convalescence from any acute disease. Eggs are also very nutritious and easily digested. Whipped eggs are digested and assimilated with great ease. Fish, as a rule, are more speedily digested than is the flesh of warm-blooded animals. Oysters, especially when taken raw, are very easily digested. We have known dyspeptics who were unable to digest any other kind of animal food, to subsist for a considerable period upon raw oysters. The flesh of mammalia seems to be more easily digested than that of birds. Beef, mutton, lamb, and venison are easily digested, while fat roast pork and veal are digested with difficulty. According to the foregoing table vegetables were digested in about the same time as ordinary animal food, but it should be remembered that a great part of the digestion of these is effected in the small intestine. Soups, are, as a rule, very quickly digested. The time required for the digestion of bread is about the same as that required for the digestion of ordinary meats. Boiled cabbage is one of the most difficult substances to digest.

Cookery. "Cookery," says Mrs. Owen, "Is the art of turning every morsel to the best use; it is the exercise of skill, thought, and ingenuity to make every particle of food yield the utmost nourishment and pleasure, of which it is capable." We are indebted to this practical woman for many valuable suggestions in this art; and some of our recommendations are drawn from her experience.

Soups. The nutritious properties, tone, and sweetness of soup depend in the first place upon the freshness and quality of the meat; secondly on the manner in which it is boiled. Soups should be nicely and delicately seasoned, according to the taste of the consumer, by using parsley, sage, savory, thyme, sweet marjoram, sweet basil, or any of the vegetable condiments. These may be raised in the garden, or obtained at the drug stores, sifted and prepared for use. In extracting the juices of meats, in order that soups may be most nutritious, it is important that the meat be put into *cold* water, or that which is not so hot as to coagulate the albumen (which would prevent it from being extracted), and then, by slow heat and

a simmering process, the most nutritious properties will be brought out.

Beef Soup may be made of any bone of the beef, by putting it into cold water, adding a little salt, and skimming it well just before it boils. If a vegetable flavor be desired, celery, carrots, onions, turnips, cabbage, or potatoes, may be added, in sufficient quantities to suit the taste.

Mutton Soup may be made from the fore-quarter, in the same manner as described above, thickened with pearl-barley or rice, and flavored to suit the taste.

Boiled Fish. Clean the fish nicely, then sprinkle flour on a cloth and wrap it around them; salt the water, and, when it boils, put in the fish; let them boil half an hour, then carefully remove them to a platter, adding egg sauce and parsley. To *bake* fish, prepare by cleaning, scaling, etc., and let them remain in salt water for a short time. Make a stuffing of the crumbs of light bread, and add to it a little salt, pepper, butter, and sweet herbs, and stir with a spoon. Then fill the fish with the stuffing and sew it up. Put on butter, salt, pepper, and flour, having enough water in the dish to keep it from burning, and baste often. A four-pound fish will bake in fifty or sixty minutes.

Broiled Steak. Sirloin and porter-house steaks should be broiled quickly. Preserve them on ice for a day or two and their tenderness is much increased. Never broil them until the meal is ready to be served.

Boiled Meat. When meat is to be boiled for *eating*, put it into boiling water, by which its juices are coagulated and its richness preserved. The slower it boils, the more tender, plump, and white it will be. Meat should be removed as soon as done, or it will lose its flavor and become soggy.

Pork Steaks. The best steaks are cut off the shoulder—ham steaks being rather too dry. They should be well fried, in order to destroy the little living parasites, called *Trichinæ*, which sometimes infest this kind of meat. They are introduced into the stomach by eating ham, pork, or sausages made from the flesh of hogs infested by them. Thorough cooking destroys them, and those who will persist in the use of swine's flesh, can afford to have it "*done brown.*"

Baked Mutton. To bake mutton well, a person should have a brisk, sharp fire, and keep the meat well basted. It requires two hours to bake a leg of mutton weighing eight pounds.

Bread. The health and happiness of a family depend, to a certain extent, on good, well-baked bread. At all events, our enjoyment would be greater if it were only better prepared. We make the following extract from an article printed by the State Board of Health, concerning the food of the people of Massachusetts: "As an example of good bread we would mention that which is always to be had at the restaurant of Parker's Hotel, in Boston. It is not better than is found on the continent of Europe on all the great lines of travel, and in common use by millions of people in Germany and France; but with us, it is a rare example of what bread may be. It is made from a mixture of flour, such as is generally sold in our markets, water, salt, and yeast—nothing else. The yeast is made from malt, potatoes, and hops. *The dough is kneaded from one and a half to two hours, and is then thoroughly baked.*" The truth seems to be that the kneading, which in this country takes the housewife's time and muscle, in Europe is done by the help of machinery. So here, in large villages and cities, people might furnish themselves with good bread, by means of co-operative associations, even at a less cost than at present.

BEVERAGES.

Water. The importance of water in the economy of nature is obvious to all. It is the most abundant substance of which we have knowledge. It composes four-fifths of the weight of vegetables, and three-fourths of that of animals. It is essential to the continuance of organic life. Water is universally present in all of the tissues and fluids of the body. It is not only abundant in the blood and secretions, but it is also an ingredient of the solids of the body. According to the most accurate computations, water is found to constitute from two-thirds to three-fourths of the entire weight of the human body. The following table, compiled by Robin and Verdeil, shows the proportion of water per thousand parts in different solids and fluids:

QUANTITY OF WATER IN 1,000 PARTS.

Teeth,	100	Bile,	880
Bones,	130	Milk,	887
Cartilage,	550	Pancreatic juice,	900
Muscles,	750	Urine,	936
Ligaments,	768	Lymph,	960
Brain,	789	Gastric juice,	975
Blood,	795	Perspiration,	986
Synovial fluid,	805	Saliva,	995

The Natural Drink of Man. Water constitutes the natural drink of man. No other liquid can supply its place. Its presence, however, in the body is not permanent. It is discharged from the body in different ways; by the urine, the feces, the breath, and the perspiration. In the first two, it is in a liquid form, in the others in a vaporous form. It is estimated that about forty-eight per cent. is discharged in the liquid, and fifty-two per cent. in the vaporous form; but the absolute as well as the relative amount discharged depends upon a variety of circumstances.

Water is never found perfectly pure, since it holds in solution more or less of almost every substance with which it comes in contact. Rain falling in the country remote from habitations is the purest water that nature furnishes, for it is then only charged with the natural gases of the atmosphere. In cities it absorbs organic and gaseous impurities, as it falls through the air, and flowing over roofs of houses carries with it soot and dust. Water from melted snow is purer than rain-water, since it descends in a solid form, and is therefore incapable of absorbing gases. Rain-water is not adapted to drinking purposes, unless well filtered. All water, except that which has been distilled, contains air, and it is due to this fact, that aquatic animals can live in it; for example, put a fish in distilled water and it will soon die.

Mineral Impurities. Rain-water, which has filtered through the soil and strata of the earth, dissolves the soluble materials, and carries them down to lower levels, until they finally collect in the sea. Common well, spring and mineral waters contain from 5 to 60 grains to the gallon; sea-water contains 2,600 grains; while in some parts of the Dead Sea there are 20,000 grains to the gallon. The principal mineral

impurities of well and spring water are lime, magnesia, soda, and oxide of iron, combined with carbonic and sulphuric acids, forming carbonates, sulphates, and chloride of sodium, or common salt. The most general, however, are carbonate and sulphate of lime.

Mineral waters are usually obtained from springs which contain a considerable amount of saline matter. Those waters which abound in salts of iron are called *chalybeate* or *ferruginous*. Those containing salt are termed *saline*. Those which contain sulphur are termed *sulphurous*. Water derives the quality of hardness from the salts of lime—chiefly the sulphates—which it contains. Hard water, being an imperfect solvent, is unsuitable for washing purposes. There are two varieties of hardness, one of which is temporary, being due to the presence of carbonic acid gas in the water which holds the salts in solution and may be removed by merely boiling the water and thus expelling the gas when the salts are deposited, while the other is permanent and can only be removed by the distillation of the water. It has been ascertained that twelve pounds of the best hard soap must be added to 10,000 gallons of water of one degree of hardness before a lather will remain and, consequently, 0.12 lb. to 100 gallons of water is a measure of one degree of hardness. Since hard water is not so useful in cooking and other domestic purposes, as soft water, causing a great waste of labor and material, it is often highly desirable to soften it, which is effected by the addition of lime in what is known as *Clark's process*. One ounce of quicklime should be added to 1,000 gallons of water for each degree of hardness. It should be first slacked and stirred up in a few gallons and then thoroughly mixed with the entire quantity. Then it should be allowed to remain, and will become clear in about three hours, but should not be drunk for twelve hours.

The purity of drinking water is a matter of much importance. That which contains a minute quantity of lead will give rise to all the symptoms of lead poisoning, if the use of it be sufficiently prolonged. An account is given of the poisoning of the royal family of France, many of whom suffered from this cause when in exile at Claremont. The amount of lead was only one grain in the gallon. Care should there-

fore be taken to avoid drinking the water which has been contained in leaden pipes. It should always be allowed to run a few minutes before being used.

An excess of saline ingredients, which in small quantities are harmless, frequently produces marked disorders of the digestive organs. A small amount of putrescent matter habitually introduced into the system, as in the use of food, is productive of the most serious results, which can be traced to the direct action of the poison introduced. A case is recorded of a certain locality favorably situated with regard to the access of pure air, where an epidemic of fever broke out much to the astonishment of the inhabitants. Upon observation it was found that the attacks of fever were limited to those families who used water from a neighboring well. The disagreeable taste of the water which had been observed, was subsequently traced to the bursting of a sewer, which had discharged a part of its contents into the well. When the cause was removed, there was no recurrence of the evil effects.

Organic Impurities. Water is liable to organic contamination from a multitude of causes, such as drainage from dwellings, dust, insects, the decaying of vegetable and animal matter. These impurities may be mechanically suspended or held in solution in the water. Although organic impurities, which are mechanically suspended in water, are poisonous, yet they are generally associated with animalculæ, and these feed upon, and finally consume them. Good water never contains animalculæ. They are never found in freshly fallen rain-water, remote from dwellings, but abound, to a greater or less extent in cisterns, marshes, ponds, and rivers. These little workers serve a useful purpose since they consume the dead organic matter from the water, and, having fulfilled their mission, sink to the bottom and die. Water which contains organic matter is exceedingly dangerous to health, and its use should be carefully avoided.

In low lands where the current of streams is sluggish, and shallow pools abound, the water is apt to be more or less infected with decaying vegetable substances. Many people living in such localities, and wishing to obtain water with as little trouble as possible, dig a hole in the ground, a few feet in

depth, and allow the stagnant surface water to accumulate. This water is used for drinking and cooking. The result is that ague prevails in such localities.

Care should be taken that wells, from which the water is used for household purposes, are located at a distance from barn-yards, privies, sinks, vaults, and stagnant pools.

Purification of Water. There are various methods of purifying water. It may be accomplished by distillation, which is the most perfect method; by filtration through sand, crushed charcoal, and other porous substances, which deprives it of suspended impurities and living organisms; by boiling, which destroys the vitality of all animal and vegetable matters, drives out the gases and precipitates carbonate of lime, which composes the crust frequently seen upon the inside of tea-kettles or boilers; by the use of chemical agents, which may be employed to destroy or precipitate the deleterious substances. Alum is often used to cleanse roily water, two or three grains in solution, being sufficient for a quart. It causes the impurities to settle to the bottom, so that the clear water can be poured or dipped out for use. One or two grains of the permanganate of potassium will render wholesome a gallon of water containing animal impurities.

How to Use Water. Very little if any water should be taken at meal time, since the salivary glands furnish an abundance of watery fluid to assist in mastication. When these glands are aided with water to "wash down" the food, their functions become feeble and impaired. The gastric juice is diluted and digestion is weakened. Large draughts of cold water ought never to be indulged in, since they cause derangement of the stomach. When the body is overheated, the use of much water is injurious. It should only be taken in small quantities. Thirst may be partially allayed, without injury, by holding cold water in the mouth for a short time and then spitting it out, taking care to swallow but very little. Travelers frequently experience inconvenience from change of water. If the means are at hand, let them purify their drinking water, if not, they should drink as little as possible. Persons who visit the banks of the Ohio, Missouri, or Mississippi rivers and similar localities, almost invariably suffer from some form of gastric or intestinal disease. Water

standing in close rooms soon becomes unfit to drink and should not be used. A drink of cold water taken on going to bed, and another on rising are conducive to health, especially in the case of persons troubled with constipation. "*Drink water,*" said the celebrated Dubois to the young persons who consulted him, "*drink water, I tell you!*" Du Moulin, the great medical authority of his time, wrote, just previous to his death, "*I leave two great physicians behind me—diet and water.*"

Tea and Coffee. These substances are almost universally used as beverages, and when properly employed, serve a four-fold purpose; they quench thirst, excite an agreeable exhilaration, repress the waste of the system, and supply nourishment. In consequence of being generally used at meal times, their stimulant properties are employed to promote digestion, and consequently they are not so objectionable as they might otherwise be. The liquids introduced into the stomach at meal times should not be cold. Tea and coffee are drunk warm, while water, except in a few instances, is always drunk cold, the effects of which have already been shown. That their inordinate use may be injurious no body can deny, but this is equally true of other beverages, even pure, cold water. Scientific investigators inform us that the use of these agents as beverages, when judiciously employed, is not injurious. It has been urged that they are poisonous, but if they are, they are very slow in their operation.

When properly prepared, they are very agreeable beverages, and as man will drink more or less at meals, they are allowable; for if their use were excluded, some other beverage would be sought after, and quite likely one of an alcoholic character employed, so of two evils, if this be an evil, let us choose the least. Unlike alcoholic stimulants, they exhilarate without a depressing reaction after their influence has passed off. But one cup should be drunk at a meal, and it should be of moderate strength. The use of large quantities of drink at meals retards digestion by diluting the digestive fluids. The excessive use of large quantities of strong tea or coffee stimulates the brain and causes wakefulness, and produces irritability of the nervous system. When they are productive of such effects, their use is injurious, and should be

considerably moderated or wholly discontinued. No criterion can be given by which the amount the system will tolerate can be regulated. What one person may take with impunity, may be deleterious to another. Individuals differ greatly in this respect. There are some who cannot tolerate them at all, either because of some peculiarity of constitution, or on account of disease. And sometimes when tea is agreeable and beneficial, coffee disagrees with the individual and *vice versa*. Persons of nervous habits whether natural or acquired, are apt to find their wakefulness and irritability increased by the use of tea, particularly if strong, while coffee will have a tranquilizing effect. Persons of a lymphatic or bilious temperament often find that coffee disagrees with them, aggravating their troubles and causing biliousness, constipation, and headache, while tea proves agreeable and beneficial. Whenever they disagree with the system, the best rule is to abandon their use. We find many persons who do not use either, and yet enjoy health, a fact which proves that they are not by any means indispensable, and, no doubt, were it customary to go without them, their absence would be but slightly missed.

Tea and coffee are adulterated to a very great extent, and persons using them will be greatly imposed upon. This is an evil we cannot remedy. If people make use of them, their experience in selecting them must be their guide; however, it is believed that the Black and Japan varieties of tea are the least apt to be adulterated, and coffee, to insure purity, should be purchased in the berry, and ground by the purchaser.

In preparing tea an infusion should be made by adding boiling water to the leaves, and permitting them to steep for a few minutes only, for a concentrated decoction, made by boiling for a long time, liberates the astringent and bitter principles and drives off the agreeable aroma which resides in a volatile oil.

Coffee should be prepared by adding cold water to the ground berry, and raising it slowly to the boiling point. Long-continued boiling liberates the astringent and bitter principles upon which its stimulant effects to a great extent depend, and drives off with the steam the aromatic oil from which the agreeable taste is derived.

ALCOHOLIC LIQUORS

These are divided into three classes: Malted, fermented, and distilled. They all contain more or less alcohol, and their effects are, therefore, in some respects similar, and, in the words of Dr. B. W. Richardson, the great English authority on hygiene:

"To say this man only drinks ale, that man only drinks wine, while a third drinks spirits, is merely to say, when the apology is unclothed, that all drink the same danger. * * * Alcohol is a universal intoxicant, and in the higher orders of animals is capable of inducing the most systematic phenomena of disease. But it is reserved for man himself to exhibit these phenomena in their purest form, and to present, through them, in the morbid conditions belonging to his age, a distinct pathology. Bad as this is, it might be worse; for if the evils of alcohol were made to extend equally to animals lower than man, we should soon have none that were tameable, none that were workable, and none that were eatable." Researches have shown that the proportion of half a drachm of alcohol to the pound weight of the body, in the quantity which usually produces intoxication, and that an increase of this amount to one drachm immediately endangers the life of the individual. The first symptom which attracts attention, when alcohol commences to take effect upon the body, is an increase in the number of the pulsations of the heart. Dr. Parkes and Count Wolowicz conducted a series of interesting experiments on young adult men. They counted the pulsations of the heart, at regular intervals, during periods when the subject drank only water; and then they counted the beats of the heart in the same individual during successive periods in which alcohol was drunk in increasing quantities.

Malted Liquors. Under this head are included all those liquors into the composition of which malt enters, such as beer, ale, and porter. The proportion of alcohol in these liquors varies greatly.

Objections to their use as Beverages. These articles are either pure or adulterated. In their pure state the objection to their use for this purpose lies in the fact that they contain alcohol. This, as we have seen, is a poisonous substance, which the human system in a state of health does not need. Its use, when the body is in a normal condition, is uncalled for, and can only be deleterious. Beverages containing this poison are more or less deleterious to healthy persons, according to the amount of it which they contain.

Fermented Liquors. These are cider and wine. Cider contains alcohol to the amount of from five to ten per cent., saccharine matter, lactic acid, and other substances. New cider may be drunk in large quantities without inducing intoxication, but old cider is quite as intoxicating as ale or porter.

The composition of wine is very complex, the peculiar qualities which characterize the different varieties cannot be ascertained by chemical analysis. Wine is a solution of alcohol in water, combined with various constituents of the grape. The amount of alcohol in wines ranges from six to forty per cent. As beverages, these are open to the same objections as those manufactured from malt. As a medicine, wine is a useful remedy. Concerning its use in this capacity, Prof. Liebig says: "Wine is a restorative. As a means of refreshment when the powers of life are exhausted—as a means of compensation where a misappropriation occurs in nutrition, and as a means of protection against transient organic disturbances, it is surpassed by no product of nature or art." That an article is useful in medicine, however, is no reason why it should be used as a beverage by those in health. It is rather an argument against such a practice. For it is generally true that the drugs used to restore the diseased system to health, are pernicious or poisonous to it when in a normal condition.

Distilled Liquors. These are whisky, brandy, and the kindred productions of the still. Whisky is a solution of alcohol in water, mixed with various other principles which impart to it peculiar physical properties. The amount of alcohol which it contains varies from forty-eight to fifty-six per cent. Old whisky is more highly prized than the more recent product of the still, from the fact that when kept for some years certain volatile oils are generated which impart to it a mellowness of flavor.

Brandy is a solution of alcohol in water, together with various other substances. It contains from fifty to fifty-six per cent. of alcohol. Pure brandy is distilled from wine, 1,000 gallons of wine yielding from 100 to 150 gallons of brandy, but a very large proportion of the brandy is made with little or no wine. It is made artificially from high wines by the addition of oil of Cognac, to give it flavor, burnt sugar to give it color, and logwood or catechu, to impart astringency and roughness of taste. The best brandy is obtained by distillation from the best quality of white wines, from the districts of Cognac and Armagnac, in France.

THE CLOTHING.

There is no physical agent which exerts a more constant or more powerful influence upon health and life, than the atmosphere. The climate in these latitudes is exceedingly variable, ranging all the way from 110° Fahr. in summer to 40° below zero in the winter season. The body of every individual should be so protected from cold, that it can maintain a mean temperature of 98° Fahr.

When the body is warm there is a free and equal circulation of the blood throughout all the structures. When the surface is subjected to cold, the numerous capillaries and minute vessels carrying the blood, contract and diminish in size, increasing the amount of this fluid in the internal organs, thus causing congestion. The blood must go somewhere, and if driven from the surface, it retreats to the cavities within. Hence this repletion of the vital organs causes pain from pressure and fullness of the distended blood-vessels, and the organic functions are embarrassed. Besides, cold upon the surface shuts up the pores of the skin, which are among the most active and important excretory ducts of the system. It is evident, then, that we require suitable clothing, not only for comfort, but to maintain the temperature and functions essential to health and life.

The chief object to be attained by dress is the maintenance of a uniform temperature of the body. To attain this end, it is necessary that the exhalations of the system, which are continually escaping through the pores of the skin, should be absorbed or conducted away from the person. These exudations occur in the form of sensible or insensible perspiration, and the clothing, to be healthy, should be so porous as to allow them freely to escape into the air.

A substance should also be chosen which is known to be a poor conductor of heat. That generated by the system will thus be retained where it is needed, instead of being dispersed into the atmosphere.

We might add that the better the material for accomplishing these purposes, the less will be needed to be worn; for we do not wish to wear or carry about with us any more material than

is necessary. It so happens that all of these qualities are found combined in *flannel*. The value of this article worn next to the skin cannot be overrated, for while it affords protection from cold during the winter months, it is equally beneficial during the heat of summer, because it imbibes the perspiration, and being very porous, allows it to escape. The skin always feels soft, smooth, and pliable, when it is worn; but when cotton takes its place, it soon becomes dry and harsh. Its natural adaptability to these purposes, shows that it is equally a comfort and a source of health. Where the skin is very delicate, flannel sometimes causes irritation. In such cases a thin fabric of linen, cotton, or silk, should be worn next the skin, with flannel immediately over it. Where there is a uniform and extreme degree of heat, cotton and linen are very conducive to comfort. But they are unsuitable in a climate or season liable to sudden fluctuations in temperature.

The value of furs, where people are exposed to extreme cold, cannot be overestimated. They are much warmer than wool. In places near the poles they constitute the chief clothing of the inhabitants.

The quantity of clothing worn depends largely on the heat of the house. In a steam-heated house one does not require heavy garments; but these should be worn out of doors in severe weather, taking them off on entering a warmer atmosphere. The least that is necessary to keep the body well protected and evenly tempered when employed is the rule of health. Some people, instead of wearing flannels next to the body, put on other material in greater abundance, thus confining the perspiration to the skin and making the body chilly. The amount of clothing is then increased, until they are so heavily clad that they cannot exercise. It is far better to wear one thickness of flannel next to the skin, and then cotton, or woollen, for outside garments, and be able to exercise, thus allowing the blood to circulate and to assist in the warming process.

Be sure and keep the feet comfortable and warm at all times,

Our next advice is to keep the legs warm. We were consulted not long ago, by a young lady who had contracted a severe

cold. She had been to an entertainment where the apartments were nicely warmed, and from thence had walked home late in the evening. We inquired into the circumstances of the case, and ascertained that she was well protected about the chest, and that she also wore rubbers over her shoes, but the other portions of the lower extremities were protected by silk coverings. In short, her legs were not kept warm, and she took cold by going out from warm rooms into a chilly atmosphere. A good pair of high overshoes might have saved her much suffering. The results of insufficient protection of the lower extremities are colds, coughs, consumption, headaches, pain in the side, menstrual derangements, uterine congestion and disorders, besides disablement for the ordinary and necessary duties of life. All these may be prevented by clothing the legs suitably, and wearing comfortable flannels.

Young people can bear a low temperature of the body better than old people, because they possess greater power of endurance. But that is no reason for unnecessary exposure.

The amount of clothing should be regulated according to the heat-generating power of the individual, and also according to the susceptibility to cold. No two persons are exactly alike in these respects. But it is never proper for young people to reject the counsels of experience, or treat lightly the advice to protect themselves thoroughly against the cold. Many a parent's heart has ached as he has followed the mortal remains of a darling child to the grave, knowing that if good advice had been heeded, in all human probability, the life would have been prolonged.

The most deleterious mechanical errors in clothing are those which affect the chest and body. Tight lacing still plays too important a part in dress. It interferes with the free and healthy movements of the body, and effects a pressure which is alike injurious to the organs of respiration, circulation, and digestion. The great muscle of respiration, the dia-

phragm, is impeded in its motion, and is, therefore, unable to act freely. The large blood-vessels are compressed, and when the pressure is excessive the heart and lungs are also subjected to restraint and thrown out of their proper positions. From the compression of the liver and stomach, the functions of digestion are impeded, a distaste for solid food, flatulency and pain after eating are the unmistakable proofs of the injury which is being inflicted.

The evil effects of such pressure are not confined to actual periods of time during which this pressure is applied. They continue after it has been removed and when the chest and trunk of the body have thus been subjected to long-continued pressure they become permanently deformed. These deformities necessarily entail great suffering in child-bearing.

The evil effects of mechanical pressure on other parts of the body are not uncommon. The leg is occasionally so indented by a tight garter that the returning flow of the blood through the veins is prevented, and a varicose condition of these vessels is produced.

Irregular and excessive pressure on the foot by imperfectly fitting shoes or boots produce deformities of the feet and cause much suffering. The high heels which are so common on the shoes of women inflict more than a local injury. Every time the body comes down upon the raised heel with its full weight, a slight shock or vibration is communicated throughout the entire extent of the spinal column, and the nervous mechanism is thereby injured. Furthermore, displacements of the pelvic organs frequently result from these unnatural and absurd articles of dress.

It is very important that the clothing should be kept clean. That which is worn for a long time becomes saturated with the excretions and exhalations of the body, which prevent free transpiration from the pores of the skin, and thereby induce mental inactivity and depression of the physical powers.

Unclean clothing may be the means of conveying disease. Scarlet fever has been conveyed frequently by the clothing of a nurse into a healthy family. All of the contagious diseases have been communicated by clothing contaminated in laundries.

Certain dyes which are largely used in the coloring of wearing apparel are poisonous, and give rise to local disease of the skin, accompanied in some instances, with constitutional symptoms. The principal poisonous dyes are the red and yellow aniline. A case of poisoning from wearing stockings colored with aniline dyes, in which there were severe constitutional symptoms, came under our observation at the 'Invalids' Hotel.

CHAPTER III.

PHYSICAL EXERCISE. MEN- TAL CULTURE. SLEEP. CLEANLINESS.

A well-developed physical organization is essential to perfect health. Among the Greeks, beauty ranked next to virtue, and an eminent author has said that "the nearer we approach Divinity, the more we reflect His eternal beauty." The perfect expression of thought requires the physical accompaniments of language, gesture, etc. The human form is pliable, and, with proper culture, can be made replete with expression, grace and beauty. The cultivation of the intellectual powers has been allowed to supplant physical training to a great extent. The results are abnormally developed brains, delicate forms, sensitive nerves and shortened lives. That the physical and mental systems should be collaterally developed, is a fact generally overlooked by educators. The fullness of a great intellect is generally impaired when united with a weak and frail body. We have sought perfection in animals and plants. To the former we have given all the degree of strength and grace requisite to their peculiar duties; to the latter we have imparted all the delicate tints and shadings that fancy could picture. We have studied the laws of their existence, until we are familiar with every phase of their production; yet it remains for man to learn those laws of his own being, by a

knowledge of which he may promote and preserve the beauty of the human form, and thus render it, indeed, an image of its Maker. When the body is tenanted by a cultivated intellect, the result is a unity which is unique, commanding the respect of humanity, and insuring a successful life to the possessor. Students are as a rule pale and emaciated. Mental application is generally the cause assigned when, in reality, it is the result of insufficient exercise, impure air, and dietetic errors. An intelligent journalist has remarked that "many of our ministers weigh too little in the pulpit, because they weigh too little on the scales." The Greek Gymnasium and Olympian Games were the sure foundations of that education from which arose that subtle philosophy, poetry, and military skill which have won the admiration of nineteen centuries. The laurel crown of the Olympian victor was far more precious to the Grecian youth than the gilded prize is to our modern genius. A popular lecturer has truly remarked, that "we make brilliant mathematicians and miserable dyspeptics; fine linguists with bronchial throats; good writers with narrow chests and pale complexions; smart scholars, but not that union, which the ancients prized, of a sound mind in a sound body. The brain becomes the chief working muscle of the system. We refine and re-refine the intellectual powers down to a diamond point and brilliancy, as if they were the sole or reigning faculties, and we had not a physical nature binding us to the earth, and a spiritual nature binding us to the great heavens and the greater God who inhabits them. Thus the university becomes a sort of splendid hospital with this difference, that the hospital *cures*, while the university *creates* disease. Most of them are indicted at the bar of public opinion for taking the finest young brain and blood of the country, and, after working upon them for four years, returning them to their homes skilled indeed to perform certain linguistic and mathematical dexterities, but very much below par in health and endurance, and, in short, seriously damaged and physically demoralized." We read with reverence the sublime teachings of Aristotle and Plato; we mark the grandeur of Homer and the delicate beauties of Virgil; but we do not seek to reproduce in our modern institutions the gymnasium, which was the real foundation of their genius. Colleges which are now entering upon their career,

should make ample provision for those exercises which develop the *physical man*. This lack of bodily training is common with all classes, and its effects are written in indelible characters on the faces and forms of old and young. Constrained positions in sitting restrict the movements of the diaphragm and ribs and often cause diseases of the spine, or unnatural curvatures, which prove disastrous to health and happiness. The head should be held erect and the shoulders thrown backward, so that at each inspiration the lungs may be fully expanded.

Physical exercise should never be too violent or too prolonged. Severe physical labor, and athletic sports, if indulged in to an extreme degree, produce undue excitability of the heart, and sometimes cause it to become enlarged. There is a form of heart disease induced by undue exertion which may be called a wearing out or wasting away of that organ. It is common in those persons whose occupations expose them to excessive physical labor for too many hours together. This feebleness of heart is felt but little by vigorous persons under forty years of age, but in those who have passed this age it becomes manifest. However, when any person so affected is attacked by any acute disease, the heart is more liable to fail, and thus cause a fatal termination.

Aneurism of the aorta or the large arteries branching off from it, which is a dilatation of the walls of these vessels, caused by the rupture of one or two of their coats, is generally induced by excessive physical strain, such as lifting heavy weights, or carrying weights up long flights of stairs, violent horse-back exercise, or hurrying to catch a train or street car.

An Erect Carriage is not only essential to health, but adds grace and beauty to every movement. Although man was made to stand erect, thus indicating his superiority over all other animals, yet custom has done much to curve that magnificent central column, upon the summit of which rests the "grand dome of thought." Many young persons unconsciously acquire the habit of throwing the shoulders forward. The spinal column is weakened by this unnatural posture, its vertebræ become so sensitive and distorted that they cannot easily support the weight of the body or sustain its equilibrium. It is generally believed that persons of sedentary habits are

more liable to become round-shouldered than any other class of individuals. Observation shows, on the contrary, that the manual laborer, or even the idler, often acquires this stooping posture. It can be remedied, not by artificial braces, but by habitually throwing the shoulders backwards. Deformed trunks and crooked spines, although sometimes the effects of disease are more frequently the results of carelessness. Jacques has remarked that "one's standing among his fellow-men is quite as important a matter in a *physiological*, as in a *social* sense." *Walking* is one of the most efficient means of physical culture, as it calls all the muscles into action and produces the amount of tension requisite for their tonicity. Long walks or protracted physical exercise of any kind should never be undertaken immediately after meals. The first essential to a healthful walk is a pleasurable object. Beautiful scenery, rambles in meadows rich with fragrant grasses, or along the flowery banks of water-courses, affords an agreeable stimulus, which sends the blood through the vital channels with unwonted force, and imparts to the cheeks the ruddy glow of health. Our poets acknowledge the silent influence of nature. Wordsworth has expressed this thought in his own sublime way:

Fig. 1.



"The floating clouds their state shall lend
To her: for her the willow bend;
Nor shall she fail to see,
E'en in the motions of the storm
Grace that shall mould the maiden's form
By silent sympathy.
The stars of midnight shall be dear
To her: and she shall lean her ear
In many a secret place,
Where rivulets dance their wayward round,
And beauty, born of murmuring sound,
Shall pass into her face."

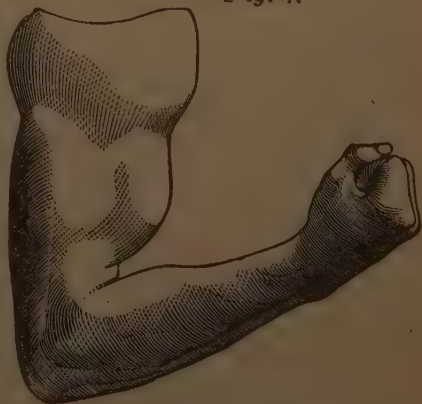
Foot Ball, Base Ball, Cricket, Boxing, Golf, Tennis & Fencing, are all healthful exercises when practised solely with a view to their hygienic advantages, and as such have our approval.

The Art of Swimming was regarded by the Greeks as an important accomplishment. As a hygienic agency, it occupies a high place in physical culture. The varied move-

Fig. 2.*Fig. 3.*

ments impart strength and elasticity to the muscles. It is as charming a recreation for women and girls as for men and boys. Furthermore, it is not only a means of physical culture, but is often essential for self-preservation.

The Exercises of the Gymnasium are especially productive of health and longevity. The most important of these are balancing, leaping, climbing, wrestling, and throwing, all of which are especially adapted to the development of the muscles. In conclusion, we offer the following suggestions, viz.: All gymnastic exercises should be practiced in the morning, and in the open air; extremes should be avoided; and it should be always borne in mind, that their chief object is to combine, in a proper proportion, mental and physical development. In

Fig. 4.**The Gymnast's Arm.**

every relation of life we should cultivate all those faculties which pertain to our physical, moral, and mental natures, subdue our passions, and nature will bestow upon us her richest rewards of health, beauty, and happiness.

Riding on Horseback is a fine exercise for both sexes. It promotes digestion, improves the circulation, and expands and develops the respiratory organs. The pure, fresh air, pleasant scenery, and pleasurable excitement, impart renewed vigor to the equestrian. In the Southern States it is a universal accomplishment, and children are taught to ride as well as to walk.

Dancing. Notwithstanding the fact that dancing has been perverted to the basest purposes, has been made the fruitful source of dissipation, and has often laid the foundation for disease, it is yet capable of being made to minister to health and happiness. As a means of physical culture, it favors the development of the muscular system, and promotes health and cheerfulness. When practised for this purpose, Jacques terms it "the best of all in-door exercises," as it brings to bear upon the physical system a great number of energizing and harmonious influences.

MENTAL CULTURE.

The brain, like all other organs of the body, requires alternate exercise and repose; and, in physical endurance, it is subject to general physiological laws. When exercised with moderation it acquires strength, vigor, and an accelerated activity. Excessive mental exertion is liable to result in softening of the brain, and various nervous diseases, sometimes culminating in insanity, and in many instances proving fatal to life. The mere votaries of pleasure who avoid all effort of the mind, fall into the opposite error. In all cases of intellectual activity, the exertions should be directed to some subject interesting to the student. In this manner duty will become a pleasure, which in turn will re-invigorate the mental functions.

When the mind is confined to one subject for any considerable length of time, it becomes fatigued, and requires relaxation, recreation, rest. This may be obtained by directing the attention to some other subject, either study or amusement, the latter of which is preferable. The amusement, however,

may be of an intellectual or physical character, or both combined, and will, if properly conducted, restore vigor to both mind and body.

Prominent among physical phenomena is the mutual relation between the brain and the organs of nutrition. Mental exertion should be avoided for at least one hour after a hearty meal, and all mental labor which requires concentration of thought ought to be accomplished in the earlier portion of the day, when the brain is refreshed and repaired by the night's repose. Mental, like physical endurance, is modified by age, health, and development. A person accustomed to concentration of thought, can endure a longer mental strain than one inured to manual labor only. One of the most injurious customs, is the cultivation of the intellect at the expense of the physical powers.

Mental Culture During Childhood. One of the greatest mistakes which people make in the management of their children is to overtask their mental faculties. Although it is exceedingly gratifying to see children acquire knowledge, and manifest an understanding far beyond their years, this gratification is often purchased too dearly, for precocious children are apt to die young. The tissue of the brain and nerves of children is very delicate; they have not yet acquired the powers of endurance which older persons possess. The greater portion of the nutriment assimilated, is required for growth and organic development, and they can ill afford its expenditure for mental manifestations. They receive impressions easier and learn much more readily than in after life, but it is at the expense of the physical organization. Their mental faculties continue to be developed by the expenditure of brain nutriment, while physical growth and the powers of endurance are arrested. It is much better to give physical development the precedence in order that the mental organism may be well supported and its operations carried into effect; for it must be apparent to all that an ordinary intellect in a healthy body, is capable of accomplishing infinitely more than a strong mind in a *weak* body. Regularity should be observed in exercising the mental functions. For this reason a fixed order in the pursuit of any literary occupation is very essential. The pursuit of the most abstruse

studies will thus become habitual and comparatively easy, a consequence of systematic application. Mental labor should always cease when the train of thought becomes confused, and there is the slightest sensation of depression. All distracting influences should be absent from the mind, in order to facilitate intense study, for the intellect cannot attend perfectly to two subjects at the same time. Painful sensations always have a tendency to paralyze mental exertion. Great care should be taken that the head is not subjected to injury of any kind, as it is almost invariably accompanied by some nervous derangement. Exposure to extreme heat should be carefully avoided. An attack of sun-stroke although it may not be immediately fatal, may occasion tumors in the brain, or some organic disease.

SLEEP.

For all animated beings sleep is an imperious necessity, as indispensable as food. The welfare of man requires alternate periods of activity and repose. It is a well-established physiological fact, that during the wakeful hours the vital energies are being expended, the powers of life diminished, and, if wakefulness is continued beyond a certain limit, the system becomes enfeebled and death is the result. During sleep there is a temporary cessation of vital expenditures, and a recuperation of all the forces. Under the influence of sleep "the blood is refreshed, the brain recruited, physical sufferings are extinguished, mental troubles are removed, the organism is relieved, and hope returns to the heart."

The severest punishment which can be inflicted upon a person, is to entirely deprive him of sleep. In China, a few years since, three criminals were sentenced to be kept awake until they should die. To do this it was necessary to keep a guard over them. The sentinels were armed with sharp-pointed instruments, with which to goad the victims and thus prevent them from sleeping. Life soon became a burden, and, although they were well fed during the time, death occurred sooner than it would have had starvation been the punishment.

Sleeping Rooms. The sleeping room should be large and well ventilated, and the air kept moderately cool. The necessity for a fire may be determined by the health of the

occupant. For invalids to maintain a proper temperature in the room, a little fire is useful, especially if in a grate, for the purpose of securing good ventilation. The windows should not be so arranged as to allow a draught upon the body during the night, but yet so adjusted that the inmate may obtain plenty of fresh air. If possible sleep with window wide open.

The Bed should not be too soft, but rather hard. Feathers give off animal emanations of an injurious character, and impart a feeling of lassitude and debility to those sleeping on them. No more coverings should be used than are actually necessary for the comfort of the individual. Cotton sheets are warmer than linen, and answer equally as well.

Sleeping Alone. Certain effluvia are thrown off from our persons, and when two individuals sleep together each inhales from the other more or less of these emanations. *Consumption*, and many other diseases, not usually considered contagious, are sometimes communicated in this manner. When it is not practicable for individuals to occupy separate beds, the persons sleeping together should be of about the same age, and in good health. Numerous cases have occurred in which healthy, robust children have gradually declined and died within a few months, from the evil effects of sleeping with old people. Again, those in feeble health have been greatly benefited, and even restored, by sleeping with others who were young and healthy.

Time for Sleep. *Night* is the proper time for sleep. When day is substituted for night, the sleep obtained does not fully restore the exhausted energies of the system. Nature does not allow her laws to be broken with impunity.

Children require more sleep than old persons. They are sometimes stupefied with "soothing syrups," and preparations of opium, in order to get them temporarily out of the way. Such narcotics are very injurious and dangerous. We have known a young child to be killed by a *single drop* of laudanum. This practice, therefore, cannot be too emphatically condemned.

How to Put Children to Bed. The following characteristic lines are from the pen of Fanny Fern, and contain such good advice that we cannot refrain from quoting

them: "Not with a reproof for any of the day's sins of omission or commission. Take any other time than bed-time for that. If you ever heard a little creature sighing or sobbing in its sleep, you could never do this. Seal their closing eyelids with a kiss and a blessing. The time will come, all too soon, when they will lay their heads upon their pillows lacking both. Let them at least have this sweet memory of happy childhood, of which no future sorrow or trouble can rob them. Give them their rosy youth. Nor need this involve wild license. The judicious parent will not so mistake my meaning. If you ever met the man or the woman, whose eyes have suddenly filled when a little child has crept trustingly to its mother's breast, you may have seen one in whose childhood's home 'dignity' and 'severity' stood where love and pity should have been. Too much indulgence has ruined thousands of children; too much love not one."

Position in Sleep. The proper position in sleep is upon the right side. The orifice leading from the stomach to the bowels being on this side, this position favors the passage of the contents into the duodenum. Lying on the back is injurious, since by doing so the spine becomes heated, especially if the person sleeps on feathers, the circulation is obstructed and local congestions are encouraged. The face should never be covered during sleep, since it necessitates the breathing of the same air over again, together with the emanations from the body.

The Amount of Sleep. The amount of sleep required varies with the age, habits, condition, and peculiarities of the individual. No definite rule can be given for the guidance of all. The average amount required, however, is eight or nine hours out of the twenty-four. Some persons need more than this, while others can do with less. Since both body and mind are recuperated by sleep, the more they are exhausted the more sleep is required. A person employed at mental labor should have more than one who is merely expending muscular strength. Six hours of unbroken sleep do more to refresh and revive than ten when frequently interrupted. If it is too prolonged it weakens and stupefies both body and mind. If an insufficient amount is taken the flagging energies are not restored. Persons who eat much or use stimulants generally

require more than others. In sleep regularity is desirable. If a person goes to bed at a certain hour for several nights in succession, it will soon become a habit. The same holds true with regard to rising. If children are put to sleep at a stated hour for several days in succession, it will soon become a habit with them.

An American doctor who wanted to abolish sleep discovered that the same amount of sleep was more beneficial in silence than in a noisy place. By some means or other noise uses up the good which sleep does us.

It was only when the brain itself came to be studied that the real meaning of sleep was found.

The brain contains vast numbers of cells, each of which is related to some part of the body, just as an electric switch is related to a lamp or a bell. The whole power and strength of the body depends upon the brain-cells.

Until a short time ago we knew very little about these strange structures. We were able to look at them with a microscope, and we could stain them with various dyes so that they showed up quite clearly against the rest of the brain matter.

And then one doctor, more observant than his fellows, noticed a strange thing. Sometimes the brain-cells did not stain so well or so darkly as at other times.

Sometimes, after staining a piece of brain from a dead animal or a dead man, the little, vital cells were pale and indistinct instead of being clear and dark.

What had happened to rob them of their sustaining power?

Evidently some substance which the cells that stained well contained, was absent from the cells that stained badly and indistinctly.

Gradually the knowledge came that during all efforts, both of mind and body, we use up this strange substance until at last our brain-cells are empty of it. And then we can do no more. Unless we can get a new supply, we perish.

It is sleep which brings the new supply. It is sleep which fills the brain-cells afresh with their vital mystery substance. It is sleep which saves us from utter exhaustion and even from

death. By no other means can we make our brains fit to work again.

And natural sleep is by far more useful in this respect than the sleep of drugs.

Sleep is thus the giver of life. Noise, which causes even resting brain-cells to work, is the enemy of sleep.

These facts are not so well known as they ought to be. Modern children get too little sleep, and very often they are disturbed by noises in the street, or even in the house. It is not fair. It is a kind of robbery of life. They never have real and sound sleep, and they wake up cross and tired.

If you wish to give your children the greatest gift of all, see that the room they sleep in is the quietest in the house. See that you do not rouse them, even to kiss them good night.

And for yourself, try to shut out noise, and to get enough time for sleep. It will pay you over and over again. Our life of nightly entertainments means starved brains, and so weak and unresponsive bodies. Exercise without sleep is expenditure without income.

If sleeplessness threatens, do not force the pace. That fails. Go to bed and read and then take a series of long, quiet breaths, and so far as possible relax all muscles the while.

In a few minutes, in most cases, sleep will come of itself. A hot-water bottle in cold weather is a great help.

CLEANLINESS

"Cleanliness is next to godliness," and is essential to the health and vigor of the system. Its importance cannot be overestimated, and it should be inculcated early on the minds of the young. "Even from the body's purity, the mind receives a secret sympathetic aid."

When we consider the functions of the skin, with its myriads of minute glands, innumerable little tubes, employed in removing the worn-out, useless matter from the system, we cannot fail to appreciate the utility of frequent bathing with soap and water. Unless these excretions are removed, the glands become obstructed, their functions are arrested, and unpleasant odors arise. Many persons think because they daily bathe the face, neck, and hands, dress the hair becomingly and remove the dirt from their clothing that the height of cleanliness has been reached. From a hygienic point of view, bathing the *entire* body is of much greater importance.

CHAPTER IV.

HYGIENE OF THE REPRODUCTIVE ORGANS.

The structure and functions of organized bodies are subject to continual alteration. The changes of nutrition and growth, which are constantly taking place in the tissues render them at the same time the seat of repair and waste, of renovation and decomposition, of life and death. The plant germinates and blossoms, then withers and decays; animal life, in like manner, comes into being, grows to maturity, fades, and dies. It is, therefore, essential to the perpetuation of life, that new organisms be provided to take the place of those which are passing out of existence. There is no physiological process which presents more interesting phenomena than that of reproduction, which includes the formation, as well as the development of new beings.

Since self-preservation is Nature's first law, the desire for food is a most powerful instinct in all living animals. Not inferior to this law is that for the perpetuation of the race; and for this purpose, throughout the animal and vegetable kingdoms, we find the Biblical statement literally illustrated: "Male and female created He them."

Health is the gauge by which the prosperity of a people may be measured. Were we to trace the history of nations,—their rise and fall,—we would find that much of the barbarism and crime, degradation and vice, as well as their decline and final extinction, was due to licentiousness and sexual excesses. Since there is an intimate relation between mind and body, when the body is enfeebled the mind becomes enervated. Mor-

bid conditions of the body prevent the highest mental development, and, on the other hand, when the mind is debilitated, general depravity, physical as well as mental, is the result. The highest development of the body results from the equal and harmonious cultivation of all the mental powers. The perfect development and health of the physical organs is therefore essential to the happiness of mankind. But, before health can be insured the nature and general functions of the physical system must be understood. This being done, the question naturally arises: *How can health be best maintained and longevity secured?*

Influence of Food. We have previously noticed the effects which food, exercise, and other hygienic agencies, have upon digestion, circulation, and respiration; and we find that they exert a not less potent influence upon the health of the generative organs. Excessive stimulation excites the sexual passions. For this reason, children should not be immoderately indulged in highly seasoned foods. Those persons who have great muscular vigor are endowed with violent passions, and unless restrained by moral considerations, are very likely to be overcome by their animal propensities.

Alcoholic stimulants have a debasing influence upon the whole system, and especially upon the sexual organs; they excite the animal and debase the moral nature; they exhaust the vitality, and, after the excitement, which they temporarily induce, has passed away, the body is left in a prostrated condition.

Physical Labor Modifies the Passions. Labor consumes the surplus vitality which a person may possess, and no better protective can be found against the gratification of the passions, unless it be high moral training, than daily toil extended to such a degree as to produce fatigue. Labor determines the blood to the surface and to other parts of the body, and prevents excitement and congestion of the sexual centers. If, by education or association, the passions of children be excited, they will be increased. If, on the contrary, they be taught to avoid these social or solitary evils, they will be abated. Let them be educated to work and the intellectual faculties will assert their sway, the moral powers will be strengthened, and the body better developed, for purity of mind is the result of the perfect development of man.

Influences of Climate. Individuals possess distinguishing peculiarities characteristic of the nation to which they belong. Climate exerts a powerful influence upon mankind. In tropical regions the inhabitants are enervated, effeminate, and sensual. The rich live in luxury and ease, vice is unrestrained and license unbridled. When the animal propensities are allowed to predominate, the mental faculties are kept in subjection. Hence races that inhabit those latitudes rarely produce scholars or philosophers. A warm climate hastens the development of the reproductive organs. Men and women become mature at a much earlier age in those regions, than in countries where the temperature is lower. In like manner there is a tendency to premature enfeeblement, for the earlier the system matures, the sooner it deteriorates.

Man is a Social Being. History demonstrates that when man is deprived of the society of woman, he becomes reckless, vicious, depraved, and even barbarous in his habits, thus illustrating the maxim: "It is not good for man to be alone." Social intercourse promotes mental and physical development. The development of the individual implies the unfolding of every power, both physical and mental. Nothing so regulates and restrains passion as a healthy condition of the organs through which it finds expression. And every organ of the body is powerful in proportion to its soundness. The propensities play a prominent part in the education of the child. When properly disciplined and held in subordination to the higher faculties, they constitute an important factor in the economy of man. Boys are more liable to be morbidly excited when secluded from the society of girls, and vice versa. Again, when the sexes are accustomed to associate, the passions are not apt to be aroused, because of the natural antagonistic constitutional elements. The influence of the one refines, and ennobles the other. Let children be taught to understand their natures, and knowing them, they will learn self-government. "As man rises in education and moral feeling he proportionately rises in the power of self-restraint; and consequently as he becomes deprived of this wholesome law of discipline he sinks into self-indulgence and the brutality of savage life.

The passions may be aroused by the language, appearance,

or dress of the opposite sex. A word spoken without any impure intent is often construed in a very different sense by one whose passions color the thought, and is made to convey an impression entirely unlike that which was intended by the speaker. Also, the dress may be of such a character as to excite the sexual passion. The manner in which the apparel is worn is often so conspicuous as to become bawdy, thereby appealing to the libidinous desires, rather than awakening an admiration for the mental qualities.

Obscene Literature. Literature is a powerful agent either for good or evil. If we would improve the morals, *choice* literature must be selected, whether it be that which realizes the ideal, or idealizes the real. Obscene literature, or books written for the express purpose of exciting or intensifying sexual desires in the young, goads to an illicit gratification of the passions, and ruins the moral and physical nature.

It not unfrequently happens that a child is born with a vigorous, mental organism which promises a brilliant future, but manhood finds him incompetent, debilitated, and totally incapacitated for mental or manual labor. This may be the result of youthful indiscretion, ignorantly committed, but not unfrequently it is the effect of a pernicious literature which inflames the imagination, tramples upon reason, and describes to the youth a realm where the passions are the ruling deities.

Many persons are born into the world with disordered organizations for which they are not themselves responsible. Such individuals are entitled to the sympathy of humanity. Dyspepsia, scrofula, consumption, and a thousand ills to which mankind is heir, are inherited from parents, the results of ill-assorted marriages. Intoxicated parents often produce offspring utterly demented. Children of healthy parents, with good constitutions, are usually healthy and intelligent. There are marked varieties of character in children of the same parents. One manifests great precocity, another is below the average in mental attainments; one is amiable, another irritable in disposition; indeed, there are often as great differences between children of the same, as of different families. This is due to the physical and mental conditions of the parents, more especially the mother, not only at the time of the im-

pregnation but also during the period intervening between conception and the birth of the offspring. The ancients regarded courage as the principal virtue. By us, purity is so estimated. Moral purity is an essential requisite to the growth and perfection of the character.

Self-Abuse. Untold miseries arise from the pollution of the body. Self-pollution, or onanism, is one of the most prolific sources of evil, since it leads both to the degradation of body and mind. It is practiced more or less by members of both sexes, and the habit once established, is overcome with the greatest difficulty. It is the source of numerous diseases which derange the functional activity of the organs involved, and eventually impair the constitution. This vicious habit is often practiced by those who are ignorant of its dangerous results. Statistics show that insanity is frequently caused by masturbation.

Immoderate indulgence in any practice is deleterious to the individual. Emphatically true is this with regard to sexual excesses. Not unfrequently does the marriage rite "cover a multitude of sins." The abuse of the conjugal relation produces the most serious results to both parties, and is a prolific source of some of the gravest forms of disease. Prostatorrhea, spermatorrhea, impotency, hypochondria and general debility of the generative organs, arise from sexual excesses.

The health of the reproductive organs can only be maintained by leading a *temperate* life. The food should be nourishing but not stimulating. Lascivious thoughts should be banished from the mind, and a taste cultivated for that literature which is elevating in its nature, and the associations should be refining and ennobling. Let these conditions and the rules of hygiene be observed, and virtue will reward her subjects with a fine physique and a noble character.

Woman, from the nature of her organization, has less strength and endurance than man. Much, however, of the suffering and misery which she experiences arises from insufficient attention to the sexual organs. The menstrual function is generally established between the ages of twelve and fourteen. For want of proper instruction, many a girl through ignorance has caused derangements which have enfeebled her womanhood or terminated her life. At this critical period the

mother cannot be too considerate of her daughter's health. Preceding the first appearance of the menses, girls usually feel an aching in the back, pains in the limbs, chilliness, and general languor. The establishment of this function relieves these symptoms. Every precaution should be taken during the period to keep the feet dry and warm, to freely maintain a general circulation of the blood, to avoid exertion, and to refrain from standing or walking too much. Menstrual derangements should never be neglected, for they predispose to affections of the brain, liver, heart, and stomach, induce consumption and frequently end in death. Young women should, therefore, properly protect themselves, and avoid extremes of heat and cold.

Self-Treatment for Women. In painful or delayed menstruation, or associated headache, first use a douche as hot as can be borne. The bowels should be promptly emptied with an enema, or rectal injection. The feet should be bathed or soaked in hot mustard water, the patient put to bed with a hot water bottle applied to the abdomen, and the room darkened. A cup of hot tea with a slice of lemon and sugar should be swallowed to promote perspiration. One or two of Dr. Pierce's Pleasant Pellets may be used with much benefit at this time to clear out the intestinal canal, as generally the trouble follows a poisoning on account of the bowels being inactive. Often a hard mass will have formed in the rectum, and may cause a displacement of the womb.

In young women who are pale, and menses scanty or profuse, Dr. Pierce's Favorite Prescription should be taken, a teaspoonful after meals, and continued for several months. The food should consist of such materials as contain plenty of iron, as spinach, water-cress, strawberries, and other green fruits and vegetables, with dark bread and fresh milk added to the usual foods of the family table.—(See Vitamines, page 413.)

For Men or Boys. Benefit results in keeping the bowels loose or regular with Dr. Pierce's Pleasant Pellets, one after meals. If necessary, Dr. Pierce's Anuric Tablets should be used, also. This is for the purpose of making the urine bland and soothing, and preventing the pressure of hardened masses in the rectum. These press against the prostate and deep-urethra, causing irritation.

CHAPTER V.

PRACTICAL SUMMARY OF HYGIENE.

1. The first step which should be taken for the prevention of disease, is to make provision for the health of the unborn child. Greater care should be exercised with women who are in a way to become mothers. Those who are surrounded by all the luxuries which wealth can bestow, indulge too much in rich food, and take too little exercise; while the poor get too little nourishment, and work too hard and too long. A woman in this condition should avoid overexertion, and all scenes which excite the passions or powerful emotions. She should take moderate exercise in the open air; eat moderately of wholesome food, and of meat not oftener than twice a day; take tea or coffee in limited quantities, and avoid the use of all alcoholic liquors; she should go to bed early and take not less than nine hours sleep; her clothing should be loose, light in weight, and warm. She should take every precaution against exposure to contagious or infectious diseases.

2. There is no better method for preventing the spread of contagious diseases than perfect isolation of the infected, and thorough disinfection of all articles of clothing or bedding which have been in contact with the infected. Many persons erroneously believe that every child must necessarily have the measles, and other contagious diseases, and they, therefore, take no precautions against the exposure of their children. The liability to infection diminishes as age advances, and those individuals are, as a rule, the strongest and best developed who have never suffered from any of the contagious diseases. Although vaccination is the great safeguard against small-pox, yet it should never prevent the immediate isolation of those who are suffering from this disease.

3. To avoid the injurious effects of impure air, the following rules, should be carefully observed. The admission of air which contains anything that emits an unpleasant odor into closed rooms should be avoided. The temperature of every apartment should be kept as near 70° Fahr. as possible, and the air should not be overcharged with watery vapor. Provisions should be made for the free admission into and escape of air from the room at all times. When an apartment is not in use, it should be thoroughly ventilated by opening the windows. Those who are compelled to remain in an atmosphere filled with dust, should wear a cotton-wool respirator.

4. To insure a healthy condition of the body, the diet of man ought to be varied, and all excesses should be avoided. The total amount of solid food taken in the twenty-four hours should not exceed two and a half pounds, and not more than one-third of this quantity should consist of animal food. Many persons do not require more than one pound and a half of mixed food. To avoid parasitic diseases, meat should not be eaten rare, especially pork. The amount of water taken daily should be six or eight glasses. When exercising and in warm weather plenty of pure water is healthful. Rain water is the purest form of natural water. It should not be taken ice-cold. Hot water has a very beneficial effect on an irritated stomach. A teacupful taken a half hour before eating is very soothing, while if used on retiring it favors sleep.

5. To avoid the evil effects of alcoholic liquors, perfect abstinence is the only safe course to pursue. Although one may use spirituous liquors in moderation for a long period of time and, possibly, remain healthy, yet such an indulgence is unnecessary and exceedingly dangerous. A person who abstains entirely from their use is safe from their pernicious influence; a person who indulges ever so moderately is in danger; a person who relies on such stimulants for support in the hour of need is lost.

6. While the use of tobacco is less pernicious than alcohol in its effects, yet it exerts a profound disturbing influence upon the nervous system, and gives rise to various functional and organic diseases. This is the verdict of those who

have given the subject the most study, and who have had the best opportunities for extensive observation. Suddenly fatal results have followed excesses in the use of tobacco. Therefore, the habit should be avoided, or if already acquired, it should be immediately abandoned.

7. The clothing should be light and porous, adapted in warmth to the season. It is especially important that persons in advanced life should be well protected against vicissitudes of heat and cold. Exposure is the cause of almost all those inflammatory diseases which occur during winter, and take off the feeble and the aged. The under-garments should be kept scrupulously clean by frequent changes. Corsets or bands which impede the flow of blood, compress the organs of the chest or abdomen, or restrict the movements of the body, are very injurious, and should not be worn. Articles of dress which are colored with irritating dye-stuffs, should be carefully avoided.

8. It matters not how varied a person's vocation may be, change, recreation, and rest are required. It is an error to suppose that more work can be done by omitting these. No single occupation which requires special mental or physical work, should be followed for more than eight hours out of the twenty-four. The physical organism is not constructed to run its full cycle of years and labor under a heavier burden than this. Physical and mental exercise is conducive to health and longevity, if not carried too far. It is erroneous to suppose that excessive physical exertion promotes health. Man was never intended to be a running or a jumping machine. In mental work, variety should be introduced. New work calls into play fresh portions of the brain, and secures repose for those parts which have become exhausted. Idleness should be avoided by all. Men should never retire from business as long as they enjoy a fair degree of health. Idleness and inactivity are opposed to nature.

9. The average length of time which a person ought to sleep is eight hours out of the twenty-four, and, as a rule, those who take this amount enjoy the best health. The most favorable time for sleep is between the hours of 10 P. M. and 6 A. M. All excitement, the use of stimulants, and excessive fatigue tend to prevent sleep. Sleeping rooms should be well ven-

tilated, and the air maintained at an equable temperature of as near 60° Fahr. as possible. Inability to sleep at the proper time, or a regular inclination to sleep at other than the natural hours for it, is a certain indication of errors of habit, or of nervous derangement.

10. Prominent among all other measures for the maintenance of Health, is personal cleanliness. Activity in the functions of the skin is essential to perfect health, and this can only be secured by thoroughly bathing the entire body. Strictly, a person should bathe once every twenty-four or forty-eight hours. The body should be habituated to contact with cold water at all seasons of the year, so that warm water may not become a necessity. The simplest and most convenient bath, is the ordinary sponge-bath. An occasional hot-air, or Turkish bath, exerts a very beneficial influence. It cleans out the pores of the skin and increases its activity.

11. The emotions and the passions exert a powerful influence over the physical organism. It is important, therefore, that they be held under restraint by the reasoning faculties. This rule applies equally to joy, fear, and grief; to avarice, anger, and hatred; and, above all, to the sexual passion. They are a prolific source of disease of the nervous system, and have caused the dethronement of some of the most gifted intellects.

SELF-HEALING OR COUÉ SELF-MASTERY.

We possess within us a powerful force. Directed in a conscious and wise manner it gives us the mastery of ourselves and aids us to overcome physical and mental ills as well as to live relatively happier, whatever conditions surround us.

The method:

Before arising and on retiring, while in bed, move your lips and repeat, counting, each time, one of twenty knots tied in a long string,

*Day by day in every way
I am getting better and better.*

Make this statement with confidence and faith in the certainty of obtaining what you want. The greater the faith, the more rapid the results.

Every time you feel any distress of mind or body, determine you will make it disappear. Shut your eyes and isolate yourself, pass your hand over your forehead or the painful part, and, moving the lips rapidly, repeat: *It will pass, it will pass!*

Avoid carefully any effort.

PART III.

RATIONAL MEDICINE.

CHAPTER I.

THE PROGRESS OF MEDICINE.

During the last half century a great change has taken place in the treatment of disease. Medicine has advanced with rapid strides, from the narrow limits of mere empiricism, to the broader realm of rationalism, until to day it comprehends all the elements of an art and a science. Scientific researches and investigations have added many valuable truths to the general fund of medical learning, but much more has been effected by observation and empirical discovery. It is of little or no interest to the invalid to know whether the prescribed remedy is organic or inorganic, simple, compound, or complex. In his anxiety and distress of body, he seeks solely for relief, without regard to the character of the remedial agents employed. But this indifference on the part of the patient does not obviate the necessity for a thorough, scientific education on the part of the practitioner. Notwithstanding all the laws enacted to raise the standard of medicine, and thus protect the public from quackery, there yet exists a disposition among many to cling to all that savors of the miraculous, or supernatural. To insure the future advancement of the healing art, physicians must instruct mankind in Physiology, Hygiene, and Medicine. When the people understand the nature of diseases, their causes, methods of prevention and cure, they will not be easily deceived, and practitioners will be obliged to qualify themselves better for their labors. The practice of medicine is every year

becoming more successful. New and improved methods of treating disease are being discovered and developed, and the conscientious physician will avail himself of *all* the means, by a knowledge of which he may benefit his fellow-men. The medical profession is divided into three principal schools, or sects.

THE ALLOPATHIC, REGULAR, OR OLD SCHOOL OF MEDICINE.

This is the oldest existing branch of the profession. To it is due the credit of collecting and arranging the facts and discoveries which form the foundation of the healing art. It has done, and is doing, much to place the science of medicine on a firm basis. To the text-books of this school, every student who would qualify himself for medical practice must resort, to gain that knowledge upon which depends his future success. The early practice of this branch of the profession was necessarily crude and empirical. Conservative in its character, it has ever been slow to recognize new theories and methods of practice, and has failed to adopt them until they have been incontrovertibly established. This conservatism was manifested in the opposition to Harvey when he propounded the theory of the circulation of the blood, and to Jenner when he discovered and demonstrated the beneficial effects of vaccination. Thus has it ever defended its established opinions against innovation; yet out of this very conservatism has grown much real good, for, although it has wasted no time or energy in the investigation of theories, yet it has accepted them when established. In this manner it has added to its fund of knowledge only those truths which are of real and intrinsic value.

The history of medicine may be divided into three eras. In the first, the practice of medicine was merely empiricism. Ignorant priests or astrologers administered drugs, concerning the properties of which they had no knowledge, to appease the wrath of mythological deities. In the second or heroic era, the lancet, mercury, antimony, opium, and the blister were employed indiscriminately as the *sine qua non* of medical practice. The present, with all its scientific knowledge of the human structure and functions, and its vast resources for remedying disease, may be aptly termed the liberal era of medicine. The allopathic differs from the other schools, mainly in the

application of remedies. In its ranks are found men, indefatigable in their labors, delving deep into the mysteries of nature, and who, for their scientific attainments and humane principles are justly considered ornaments to society and to their profession.

HOMŒOPATHY.

Although this school is of comparatively recent origin, yet it has gained a powerful hold upon the public favor, and numbers among its patrons very many intelligent citizens. This fact alone would seem to indicate that it possesses some merit. The homœopathic differs from the allopathic school principally in its "*law of cure*," which, according to Hahnemann, its founder, was the doctrine of "*similia similibus curantur*," or "like cures like." Its method of treatment is founded upon the assumption that if a drug be given to a healthy person, symptoms will occur which, if transpiring in disease, would be mitigated by the same drug. While it may be exceedingly difficult for a member of another school to accept this doctrine and comprehend the method founded upon it, yet no one can deny that it contains some elements of truth.

Imbued with the spirit of progress, many of its most intelligent and successful practitioners have resorted to the use of appreciable quantities of medicine. This school associates hydropathy with its practice, and usually inculcates rigid dietetic and hygienic regulations. Many homœopathic remedies are thoroughly triturated with sugar of milk, which renders them more palatable and efficacious. Whether we attribute their cures to the infinitesimal doses which many homœopaths employ to their "*law of cure*," to good nursing, or to the power of nature, it is nevertheless true that their practice is measurably successful. No doubt the homœopathic practice has modified that of the other schools, by proving that diseases may be alleviated by smaller quantities of medicine than were formerly employed.

THE ECLECTIC SCHOOL.

This school, founded by Wooster Beach, instituted the most strenuous opposition to the employment of mercury, antimony, the blister, and the lancet. The members of this new school proclaimed that the action of heroic and noxious medicines

was opposed to the operation of the vital forces, and proposed to substitute in their place safer and more efficacious agents, derived exclusively from the vegetable kingdom. The eclectics have investigated the properties of indigenous plants and have discovered many valuable remedies, which a kind and bounteous nature has so generously supplied for the healing of her children. Marked success attended the employment of these agents. In 1852, a committee on "Indigenous Medical Botany," appointed by the "American Medical Association," acknowledged that the practitioners of the regular school had been extremely ignorant of the medical virtues of plants, even of those of their own neighborhoods. The employment of podophyllin and leptandrin as substitutes for mercurials has been so successful that they are now used by practitioners of all schools. Although claiming to have been founded upon liberal principles, it may be questioned whether its adherents have not been quite as exclusive and dogmatic as those whom they have opposed. It cannot be denied, however, that the eclectics have added many important remedies to the *Materia Medica*. Their writings are important and useful contributions to the physician's library.

THE LIBERAL AND INDEPENDENT PHYSICIAN.

After this brief review of the various medical sects, the reader may be curious to learn to what sect the physicians of the Invalids' Hotel and Surgical Institute belong. Among them are to be found graduates from the colleges of all the different schools. They are not restricted by the tenets of any one sect, but claim the right and privilege, nay, consider it a duty, to select from all, such remedies as careful investigation, scientific research, and an extensive experience, have proved valuable. They resort to any and every agent which has been proved efficacious, whether it be vegetable or mineral.

And here arises a distinction between *sanative* remedial agents and those which are *noxious*. Many practitioners deplore the use of poisons, and advocate innocuous medicines which produce only curative results. We agree with them in one proposition, namely, that improper medicines not only poison, but frequently utterly destroy the health and body

of the patient. Every physician should keep steadily in view the final effects, as well as present relief, and never employ any agent without regard to its ulterior consequences. However, an agent which is noxious in *health*, may prove a valuable remedy in *disease*. When morbid changes have taken place in the blood and tissues, when a general diseased condition of the bodily organs has occurred, then an agent, which is poisonous in health, may prove curative. For instance it is admitted that alcohol is a poison; that it prevents healthful assimilation, solidifies pepsin, begets a morbid appetite; that it produces intoxication, and that its habitual use destroys the body. It is, therefore, neither a hygienic nor a sanative agent, but strictly a noxious one; yet, its very distinct antiseptic properties render it valuable for remedial purposes, since these qualities promptly arrest that fatal form of decomposition of the animal fluids which is occasioned by snake-venom, which produces its deadly effects in the same manner as a drop of yeast ferments the largest mash. Alcohol checks this poisonous and deadly process and neutralizes its effects. Thus, alcohol, although a noxious agent, possesses a special curative influence in a morbid state of the human system; but its general remedial effects do not entitle it to the rank of a hygienic agent. We believe that medicine is undergoing a gradual change from the darkness of the past, with its ignorance, superstition, and barbarism, to the light of a glorious future. At each successive step in the path of progress, medicine approaches one degree nearer the realm of an exact science. The common object of the practitioners of all medical schools is the alleviation of human suffering. The only difference between the schools is in the remedies employed, the size of dose administered, and the results attained. These are insufficient grounds for bitter sectarianism. We are all fellow laborers in the same field. Before us lies a boundless expanse for exploration. There are new conditions of disease to be learned, new remedies to be discovered, and new properties of old ones to be examined.

We do not deplore the fact, that there are different schools in medicine, for this science has not reached perfection, and they tend to stimulate investigation. The remarks of Herbert Spencer on the "Multiplication of Schemes of Juvenile Cul-

ture," may be pertinently applied to the different schools in medicine with increased force. He says: "It is clear that dissent in education results in facilitating inquiry by the division in labor. Were we in possession of the true method, divergence from it would, of course, be prejudicial; but the true method having to be found, the efforts of numerous independent seekers carrying out their researches in different directions, constitute a better agency for finding it than any that could be devised. Each of them struck by some new thought which probably contains more or less of basis in facts—each of them zealous on behalf of his plan, fertile in expedients to test its correctness, and untiring in its efforts to make known its success—each of them merciless in its criticism on the rest—there cannot fail, by composition of forces, to be a gradual approximation of all towards the right course. Whatever portion of the normal method any one of them has discovered, must, by the constant exhibition of its results, force itself into adoption; whatever wrong practices he has joined with it must, by repeated experiment and failure, be exploded. And by this aggregation of truths and elimination of errors, there must eventually be developed a correct and complete body of doctrine. Of the three phases through which human opinion passes—the unanimity of the ignorant, the disagreement of the inquiring, and the unanimity of the wise—it is manifest that the second is the parent of the third."

We believe the time is coming when those maladies which are now considered fatal will be readily cured—when disease will be disarmed of its terrors. To be successful, a physician must be independent, free from all bigotry, having no narrow prejudice against his fellow-men, liberal, accepting new truths from whatever source they come, free from the restrictions of societies, and an earnest laborer in the interests of the Great Physician.

CHAPTER II.

REMEDIES FOR DISEASE.

It will be our aim, throughout this book, to prescribe such remedies as are within the easy reach of all, and which may be safely employed. Many of those of the vegetable class are indigenous to this country, and may be procured in their strength and purity, at the proper season, by those residing in the localities where they grow, while all others advised may be obtained at any good drug-store. We shall endeavor to recommend such as can be procured and prepared with the least trouble and expense to the patient, when it is believed that they will be equally as efficacious as more expensive medicines.

PROPRIETARY MEDICINES.

Having the invalid's best interests in view, it will often happen that we cannot prescribe better or cheaper remedies nor those which are more effective or easily obtained, than some of our standard preparations, which are sold by all druggists. We are aware that there is a popular, and not altogether unfounded prejudice against "patent medicines," owing to the small amount of merit which many of them possess. The term "Patent Medicine" does not apply to Dr. Pierce's Remedies, as no patent has ever been asked or obtained for them, nor have they been urged upon the public as "cure alls." They are simply favorite prescriptions, which, in a very extensive practice, have proved their superior remedial virtues in the cure of the diseases for which they are recommended.

From the time of Hippocrates down to the present day,

physicians have classified diseases according to their causes, character or symptoms. It has been proved that diseases apparently different may often be cured by the same remedy. The reason for this singular fact is obvious. A single remedy may possess a variety of properties. Quinine, among other properties has a tonic which suggests its use in cases of debility; an antiperiodic, which renders it efficient in ague; and an antifebrile property, which renders it efficacious in cases of fever. The result produced varies with the quantity given, the time of its administration, and the circumstances under which it is employed. Every practicing physician has his favorite remedies, which he oftenest recommends or uses, because he has the greatest confidence in their virtues. The patient does not know their composition. Even prescriptions are usually written in a language unintelligible to anybody but the druggist. As much secrecy is employed as in the preparation of proprietary medicines. Does the fact that an article is prepared by a process known only to the manufacturer render that article less valuable? How many physicians know the elementary composition of the remedies which they employ, some of which never have been analyzed? Few practitioners know how morphine, quinine, podophyllin, leptandrin, pepsin, or chloroform, are made, or how nauseous drugs are transformed into palatable elixirs; yet they do not hesitate to employ them. Is it not inconsistent to use a prescription the composition of which is unknown to us, and discard another preparation simply because it is accompanied by a printed statement of its properties with directions for its use?

Various journals in this country, have at different times published absurd formulæ purporting to be receipts for the preparation of "Dr. Sage's Catarrh Remedy" and Dr. Pierce's Standard Medicines, which, in most instances, have not contained a single ingredient which enters into the composition of these celebrated remedies.

In the manufacture of any pharmaceutical preparation, two conditions are essential to its perfection, viz: Purity and strength of the materials, and appropriate machinery. The first is insured, by purchasing the materials in large quantities, whereby the exercise of greater care in selecting the ingredients can be afforded; and the second can only be accomplished

where the business is extensive enough to warrant a large outlay of capital in procuring proper chemical apparatus. These facts apply with especial force to the manufacture of our medicines, their quality having been vastly improved since the demand has become so great as to require their manufacture in very large quantities. Some persons, while admitting that our medicines are good pharmaceutical compounds, object to them on the ground that they are too often used with insufficient judgment. We propose to obviate that difficulty by enlightening the people as to the structure and functions of their bodies, the causes, character, and symptoms of disease, and by indicating the proper and judicious employment of our medicines, together with such auxiliary treatment as may be necessary. Such is one of the designs of this volume.

PROPERTIES OF MEDICINE.

It is generally conceded that the action of a remedy upon the human system depends upon properties peculiar to it. The effects produced suggest the naming of these qualities, which have been scientifically classified. We shall name the diseases from their characteristic symptoms, and then, without commenting upon all the properties of a remedy, recommend its employment. Our reference to the qualities of any remedy, when we do make a particular allusion to them, we shall endeavor to make as easy and familiar as possible.

Dose. All persons are not equally susceptible to the influence of medicines. As a rule, women require smaller doses than men, and children less than women. Infants are very susceptible to the effects of anodynes, even out of all relative proportion to other kinds of medicines. The circumstances and conditions of the system increase or diminish the effects of medicine, so that an aperient at one time may act as a cathartic at another, and a dose that will simply prove to be an anodyne when the patient is suffering great pain will act as a narcotic when he is not. This explains why the same dose often affects individuals differently. The following table is given to indicate the size of the dose, and is graduated to the age:

YEARS.	DOSE.	YEARS.	DOSE.
21	full.	4	1-6
15	2-3	2	1-8
12	1-2	1	1-12
8	1-3	½	1-20 to 1-30
6	1-4		

The doses mentioned in the following pages are those for adults, except when otherwise specified.

The Preparation of Medicines. The remedies which we shall mention for domestic use are mostly vegetable. Infusions and decoctions of these will often be advised on account of the fact that they are more available than the tinctures, fluid extracts, and concentrated principles, which we prefer, and almost invariably employ in our practice. Most of these medical extracts are prepared in our chemical laboratory under the supervision of a careful and skilled pharmacist. No one, we presume, would expect, with only a dish of hot water and a stew-kettle, to equal in pharmaceutical skill the learned chemist with all his ingeniously devised and costly apparatus for extracting the active, remedial principles from medicinal plants. Yet infusions and decoctions are not without their value; and from the inferior quality of many of the fluid extracts and other pharmaceutical preparations in the market, it may be questioned whether the former are not frequently as valuable as the latter. So unreliable are a majority of the fluid extracts, tinctures, and concentrated, active principles found in the drug-stores, that we long since found it necessary to have prepared in our laboratory, most of those which we employ. To the reliability of the preparations which we secure in this way we largely attribute our great success in the treatment of disease. Tinctures and fluid extracts are often prepared from old and worthless roots, barks, and herbs which have wholly lost their medicinal properties. Yet they are sold at just as high prices as those which are good. We manufacture our tinctures, fluid extracts, and concentrated, active principles from roots, barks, and herbs, which are fresh, and selected with the greatest care. Many of the crude roots, barks, and herbs found in the market are inactive because they have been gathered at the wrong season. These, together with those that have been kept on hand so long as to have lost all medicinal value, are often sold in large quantities, and

at reduced prices, to be manufactured into fluid extracts and tinctures. Of course, the preparations made from such materials are worthless. Whenever the dose of fluid extracts, tinctures, and concentrated, active principles, is mentioned in this chapter, the quantity advised is based upon our experience in the use of these preparations, as they are made in our laboratory, and the smallest quantity which will produce the desired effect is always given. When using most of the preparations found in the drug-stores, the doses have to be somewhat increased, and even then they will not always produce the desired effect, for reasons already given.

The List of Medicines which we shall introduce in this chapter will be quite limited, as we cannot hope, by making it extensive, that the non-professional reader would be able to prescribe with good judgment any other than the simpler remedies. Hence, we prefer, since we have no space in this volume to waste, to mention only a few of the most common remedies under each head or classification.

Tinctures. Very uniform and reliable tinctures may be made of most indigenous plants, by procuring the part to be employed, at the proper season, while it is green and fresh, bruising it well, and covering it with good strong whisky, or with alcohol diluted with one part of water to three of alcohol, corking tightly, and letting it stand about fourteen days, when the tincture may be filtered or poured off from the drugs, and will be ready for use. Prepared in this imperfect manner, they will be found to be much more reliable than any of the fluid extracts found in the drug-stores. An excess of the crude drug should be used in preparing the tincture to insure a perfect saturation of the alcohol with its active principles.

Homœopathic Tinctures. The tinctures prepared by several of the German and French pharmacutists, and called by them "Mother Tinctures," to distinguish them from the dilutions made therefrom, we have found to be very reliable, so much superior to any similar preparations made in this country that we purchase from them all we use of Pulsatilla, Staphisagria, Drosera and several others. They are prepared with great care from the green, crude material, and although high in price, when compared with other tinctures,

yet the greater certainty of action which we secure in our prescriptions by their employment more than repays for the expense and trouble in procuring them, for of what account is expense to the true physician when *life* may depend upon the virtue of the agent he employs?

Infusions. These are generally made by adding one-half ounce of the crude medicine to a pint of water, which should be closely covered, kept warm, and used as directed. Flowers, leaves, barks, and roots become impaired by age, and it is necessary to increase or diminish the dose according to the strength of the article employed.

Decoctions. The difference between a decoction and an infusion is, that the plant or substance is boiled in the production of the former, in order to obtain its soluble, medicinal qualities. Cover the vessel containing the ingredients, thus confining the vapor, and shutting out the atmospheric air which sometimes impairs the active principles and their medicinal qualities. The ordinary mode of preparing a decoction is to use one ounce of the plant, root, bark, flower, or substance to a pint of water. The dose internally varies from a tablespoonful to one ounce.

ALTERATIVES.

Alteratives are a class of medicines which in some inexplicable manner, gradually change certain morbid actions of the system, and establish a healthy condition instead. They stimulate the vital processes to renewed activity, and arouse the excretory organs to remove matter which ought to be eliminated. They facilitate the action of the secretory glands, tone them up, and give a new impulse to their operations, so that they can more expeditiously rid the system of worn-out and effete materials. In this way they alter, correct, and purify the fluids, tone up the organs, and re-establish their healthy functions. Alteratives may possess tonic, laxative, stimulant, or diuretic properties all combined in one agent. Or we may combine several alteratives, each having only one of these properties in one remedy. We propose to enumerate only a few alteratives, and give the doses which are usually prescribed; the list which we employ in our practice is very extensive, but it cannot be made available for domestic use.

Mandrake (*Podophyllum Peltatum*), also called May-apple, is a most valuable alterative. The root is the part used.

Dose—Of decoction, one to two teaspoonfuls; of tincture, six to eight drops; of fluid extract, three to five drops; of its active principle, Podophyllin, one-twelfth to one-eighth of a grain.

Poke (*Phytolacca Decandra*), also called Skoke, Garget, or Pigeon-berry, is a valuable alterative. The root is the part used.

Dose—Of decoction, one to three teaspoonfuls; of fluid

Fig. 1.



Tag Alder.

extract, three to ten drops; of concentrated principle, Phytolaccin, one-fourth to one grain.

Yellow Dock (*Rumex Crispus*). The part used is the root.

Dose—Of the infusion, one to three fluid ounces three times daily; of fluid extract, ten to thirty drops; of tincture, twenty to forty drops.

Tag Alder (*Alnus Rubra*). This is otherwise known as the Smooth, Common, or Swamp Alder. The bark is the

part used. It is excellent in scrofula, syphilis, cutaneous and all blood diseases.

Dose—Of decoction, one or two tablespoonfuls from three to five times daily; of tincture, one or two teaspoonfuls; of

Fig. 2.



Black Cohosh.

fluid extract, one-half to one teaspoonful; of concentrated principle, Alnuin, one-half to one grain.

Black Cohosh (*Macrotys* or *Cimicifuga Racemosa*). The part used is the root. Its other common names are Black

Snake-root, or Squaw-root. Black Cohosh is an alterative, stimulant, nervine, diaphoretic, tonic, and a cerebro-spinal stimulant. It is a useful remedy.

Dose—Of decoction, one-fourth to one ounce; of tincture,

Fig. 3.



Blood-root.

ten to fifteen drops; of fluid extract, five to ten drops; of the concentrated principle, Macrotin, one-eighth to one-half grain.

Blood-root (*Sanguinaria Canadensis*), is also known as Red Puccoon. The part used is the root. In minute doses

Blout-root is a valuable alterative, acting upon the biliary secretion and improving the circulation and digestion.

Dose—Of powdered root, one-fourth to one-half grain; of tincture, one to two drops; of fluid extract, one-half to one drop. When given in a fluid form it should be well diluted.

Burdock (*Arctium Lappa*). The root is the part used. Burdock is a valuable alterative in diseases of the blood.

Dose—Of tincture, from one teaspoonful to a tablespoonful twenty minutes before meals; of fluid extract, one to two teaspoonfuls.

Blue Flag (*Iris Versicolor*). The part used is the root.

Dose—Of the tincture, five to ten drops; of fluid extract, three to ten drops; of concentrated principle, Iridin, one-half to two grains.

Sweet Elder (*Sambucus Canadensis*). Sweet Elder-flowers are a valuable alterative, diuretic, mucous and glandular stimulant, excellent in eruptive, cutaneous, and scrofulous diseases of children. An infusion, fluid extract, or syrup, may be used in connection with the "Golden Medical Discovery." Both will be found valuable for cleansing the blood and stimulating the functions to a healthy condition.

Dose—Of the infusion of the flowers, from one-half to one ounce, if freely taken, will operate as a laxative; of fluid extract, one-fourth to one-half teaspoonful. The flowers, or inner bark of the root, simmered in fresh butter, make a good ointment for most cutaneous affections.

Iodine. This agent, in the several forms of Iodide of Potassium, Iodide of Ammonium, Iodide of Iron, and Iodide of Lime, is largely employed by physicians, and often with most happy results. But for domestic use we cannot advise its employment, as it is liable to injure the invalid, when its action is carried too far, which is apt to be the case, when not administered under the supervision of a competent physician.

Mercury. The various preparations of mercury have a profound, alterative effect upon the system. When taken for some time, they change the quality and composition of the blood; cause a diminution in the number of red blood-corpuscles, and an increase in the various effete materials. In the vast majority of cases we prefer the vegetable alteratives, but

in rare instances they exert a beneficial influence, in small doses. None of the preparations of mercury should be taken internally without the advice of a skillful physician, therefore, we shall not give their doses.

THE COMPOUNDING OF ALTERATIVES.

The efficacy of this class of remedies can be greatly increased by properly combining several of them into one compound. This requires a knowledge of Pharmaceutical Chemistry; *i. e.*, the preparation of compounds founded on the chemical relation and action of their several remedial, active principles. Many practitioners make combinations of remedies which neutralize each other's influence, instead of extending their efficacy and curative power.

Dr. Pierce's Golden Medical Discovery, or Alterative Extract. This compound is a highly nutritive and tonic preparation, combining the remedial properties of the best vegetable alteratives at present known to the medical profession. In perfecting this alterative compound, and likewise other standard preparations of medicine, we have made an outlay of many thousand dollars for chemical apparatus, and special machinery by the aid of which these remedies have been brought to their present perfection. Great pains are taken to obtain the materials at the right season of the year, properly cured so that none of their remedial qualities may be impaired. We, therefore, can with great confidence recommend Dr. Pierce's Golden Medical Discovery as one of the best preparations of the alterative class. Like all others of this type, its action is insensible, producing gradual changes, arousing the excretory glands to remove morbid materials, and at the same time toning the secretory organs. The manufacture of this compound is under the special supervision of a competent chemist and pharmacist, and it is now put up in liquid or tablet form wrapped with full directions for its use. We can confidently recommend this compound whenever an alterative is required to cleanse the blood, tone the system, increase its nutrition, and establish a healthy condition. For these reasons we shall often advise its employment.

Doctor Pierce's Pleasant Purgative Pellets. These pellets combine the pure, concentrated, active principles

of several vegetable alteratives, and the result is, that within the small compass of a few grains he has most happily blended and chemically condensed these properties, so that their action upon the animal economy is sanative and universal. They awaken the latent powers, quicken the tardy functions, check morbid deposits, dissolve hard concretions, remove obstructions, promote depuration, harmonize and restore the functions, equalize the circulation, and encourage the action of the nervous system. They stimulate the glands, increase the peristaltic movement of the intestines, tone the nutritive processes, while aiding in evacuating the bowels. All this they accomplish without corroding the tissues or vitiating the fluids. Their assistance is genial, helping the system to expel worn out materials, which would become noxious if retained. Having expended their remedial powers upon the various functions of the body, they are themselves expelled along with other waste matter, leaving behind them no traces of irritation. This cannot be said of mercurials, or of other harsh, mineral alteratives. These Pellets may be safely employed when the system is feeble, frail, and delicate, by giving them in less quantities.

Dose—As an alterative, only one or two Pellets should be taken daily.

ALKALIES.

Alkalies. These constitute an important list of remedial agents, their administration being frequently indicated. The employment of other medicines frequently should be preceded by the administration of an agent of this class, to neutralize excessive acidity in the stomach and bowels. Unless this be done, many medicines will fail to produce their specific effects.

Sulphite of Soda (*Sodæ Sulphis*). This salt, as well as the Hyposulphite of Soda, is not only generally preferable for administration on account of its unirritating character and the smallness of the dose required, but also because it is a valuable antiseptic agent. The *Sulphite* should not be confounded with the *Sulphate* of Soda (Glauber's Salt).

Dose—This is from three to ten grains.

Saleratus (*Potassæ Bicarbonas*). This is a favorite domestic antacid. *Dose*—Five to fifteen grains is the amount.

ACIDS.

As alkalies are important and often indicated as remedial agents, so their re-agents, acids, are also frequently necessary to meet opposite conditions of the fluids of the system.

Hydrochloric or Muriatic Acid. This agent may be administered in doses of from five to ten drops, largely diluted in water or gruel.

Aromatic Sulphuric Acid, or Elixir of Vitriol, is the most agreeable form of Sulphuric Acid for administration, and may be given in doses of from five to fifteen drops, largely diluted with water.

In taking acids, they should be sucked through a straw, and not allowed to come in contact with the teeth, as otherwise the latter organs will be injured by their effects; or should the acid come in contact with the teeth, the mouth should be immediately rinsed with a solution of saleratus or soda, to neutralize the acid.

ANODYNES.

Anodynes are those medicines which relieve pain by blunting the sensibility of the nerves, or of the brain, so that it does not appreciate the morbid sensation. An anodyne may be a stimulant in one dose, and a narcotic in a larger one. The properties of different anodyne agents vary, consequently they produce unlike effects. The size of the dose required, differs according to circumstances and condition. An adult, suffering acute pain, requires a much larger dose to produce an anodyne effect than one who is a chronic sufferer. An individual accustomed to the use of anodynes, requires a much larger dose to procure relief than one who is not. Doses may be repeated, until their characteristic effects are produced, after an interval of thirty or forty minutes. When the stomach is very sensitive and will not tolerate their internal administration, one-sixth of a grain of Morphia can be inserted beneath the skin, by means of a hypodermic syringe. Relief is more quickly experienced, and the anodyne effect is much more lasting than when taken into the stomach.

Opium (*Papaver Somniferum*). Opium is a stimulant, anodyne, or narcotic, according to the size of the dose administered.

Dose—Of the dry powder, one-fourth to one grain; of

tincture (Laudanum), five to fifteen drops; of camphorated tincture (Paregoric), one-half to one teaspoonful; of Morphine, one-eighth to one-fourth grain; of Dover's Powder, three to five grains.

Poison Hemlock (*Conium Maculatum*). The leaves

Fig. 4.



Poison Hemlock.

are the parts used. Poison Parsley, as it is sometimes called is an anodyne, narcotic, and an excellent alterative.

Dose—Of fluid extract, two to six drops; of solid extract, one-fourth to one-half grain.

Hyoscyamus (*Hyoscyamus Niger*), commonly known as Henbane. The herb is used. It is a powerful narcotic, and unlike Opium, does not constipate the bowels, but possesses a laxative tendency. Therefore, it may be employed as an

anodyne for allaying pain, calming the mind, inducing sleep and arresting spasms, when opiates are inadmissible.

Dose—Of alcoholic extract, one-half to two grains; of fluid extract, five to ten drops; of the concentrated principle, Hyoscyamin, one-twelfth to one-fourth of a grain.

Belladonna (*Atropa Belladonna*) or Deadly Nightshade. The herb or leaves are a valuable agent. In overdoses, it is an energetic, narcotic poison. In medicinal doses it is anodyne, antispasmodic, diaphoretic, and diuretic. It is excellent in neuralgia, epilepsy, mania, amaurosis, whooping-cough, stricture, rigidity of the os uteri, and is supposed by some to be a prophylactic or preventive of Scarlet Fever. Its influence upon the nerve centers is remarkable. It relaxes the blood-vessels on the surface of the body and induces capillary congestion, redness of the eye, scarlet appearance of the face, tongue, and body.

Dose—Of fluid extract, one-half to one drop; of tincture, one to two drops; of concentrated principle, Atropin, one-thirtieth to one-sixteenth of a grain; of the *Alkaloid*, *Atropia*, one-sixtieth of a grain. Even the most skillful chemists are very cautious in compounding these latter active principles, and the danger of an overdose is great.

Camphor. This drug is an anodyne, stimulant, and diaphoretic, and, in large doses, a narcotic and an irritant. It is an excellent simulant for liniments.

Dose—Of the powder, one to five grains; of the tincture, ten to twenty drops, given in simple syrup.

Hops (*Humulus Lupulus*). This is an excellent remedy in wakefulness, and may be used when opium is contra-indicated. A bag of the leaves, moistened with whisky and placed as a pillow under the head, acts as an anodyne.

Dose—Of the infusion of the leaves, from one to four ounces; of the fluid extract, one-fourth to three-fourths of a teaspoonful; of the concentrated principle, Humulin, one to three grains.

Doctor Pierce's Smart-weed. This anodyne compound is made by combining Extract of Smart-Weed herb and Extract of Jamaica Ginger root, Jamaica Dogwood, Wild Yam and a small amount of Gum Camphor. It is free from alcohol or opium, which are liable to produce deleterious results, and has been found to be not only harmless in its action, but very

genial and effectual withal, and most reliable as a stimulant and diaphoretic remedy.

ANTHELMINTICS.

Anthelmintic means "against a worm, and is a term employed to designate those medicines which destroy or expel worms. It means the same as *Vermifuge*. Little is understood concerning the origin of worms. There are five distinct varieties described by authors as being more common than others. There is the long worm, the short, or pin-worm, the thread-worm, the tape-worm, and the broad tape-worm peculiar to some countries of Europe. Some medicines kill the worms, others expel them alive. The remedies which successfully remove one kind of worm have little effect upon another. The pin-worm inhabits the rectum, and may be destroyed by injecting into it a strong solution of salt, or decoction of aloes, and when it is allowed to pass away, the rectum should be anointed with vaseline, butter, or lard. Generally, vermifuge remedies should be taken when the stomach is empty, and should be followed by the administration of a cathartic in two hours after the last dose is administered.

Santonin. This is decidedly the most reliable anthelmintic known to the medical profession. It is deservedly a popular remedy for worms, and when combined with Podophyllin, is very efficacious in removing the long worm.

Dose—For an adult, two to three grains of the powdered Santonin, repeated every three hours until four or five doses are taken, when it should be followed by a cathartic.

Common Salt (*Chloride of Sodium*). Common table salt is an anthelmintic, and may be used in an emergency. Salt water is a very common domestic remedy for worms.

Dose—In solution, one-quarter to one-half teaspoonful.

Male Fern (*Aspidium Filix Mas*). Male Fern is the anthelmintic which is considered especially effectual in removing the tape-worm.

Dose—Of the powder, one to two drachms, given morning and evening in syrup, followed by a brisk cathartic. The dose of the tincture of the buds in ether is from eight to thirty drops.

ANTIPERIODICS.

It is well understood that malarial diseases are characterized by a periodicity which indicates their nature. Antiperiodics prevent the recurrence of the periodic manifestations, and hence their name.

Quinine (*Sulphate of Quinia*). Quinine is a tonic, febrifuge, and antiperiodic. It should generally be administered during the intervals between the febrile paroxysms. It is beneficial also in all diseases accompanied by debility. The dose varies from one to six grains, according to indications.

The "Golden Medical Discovery" has gained an enviable reputation in malarial districts for the cure of ague. From observing its action in the cure of this and other miasmatic diseases, and knowing its composition, we are thoroughly satisfied that it contains chemical properties which neutralize and destroy the miasmatic or ague poison in the system, and, at the same time, produces a rapid excretion of the neutralized poisons. One strong proof of this is found in the fact that persons who are cured with it are not so liable to relapse, and that no bad effects are experienced after an attack of ague which has been cured with the "Golden Medical Discovery." This cannot be said of Quinine, Peruvian Bark, Arsenic, and Mercurials, which comprise nearly the whole list of remedies usually resorted to by physicians for arresting ague. The "Golden Medical Discovery" not only has the merit of being an antidote for miasmatic diseases but is pleasant to the taste—a matter of no small importance, especially when administered to children. To break the chills, this medicine should be taken in doses of four teaspoonfuls three times a day, and if this treatment pursued for three days does not entirely arrest the chills, these doses may be repeated in alternation with five-grain doses of quinine for the three succeeding days.

That the wide range of the applicability of the "Golden Medical Discovery" to the more common diseases, and to some of the uncommon, may be fully understood, we will state the ingredients and follow with the endorsements by leading medical writers. Doctor Pierce's Golden Medical Discovery is made principally of Queen's root, Stone root, Cherrybark, Blood-root, Sacred Bark, Oregon Grape root and chemically pure Glycerine.

Queen's root (*Stillingia Sylvatica*). Prof. JOHN KING, M. D., writes: "An alterative (blood purifier), unsurpassed by few if any of the known alteratives; most successful in skin and scrofulous affections—beneficial in bronchial affections—permanently cures bronchitis—relieves irritations—an important cough remedy—coughs of years' standing being cured. Aids in blood-making and nutrition, and may be taken without harm for long periods."



"*Stillingia* has long been in repute as an alterative and employed for scrofula in its various forms. Most satisfactory results have been obtained from its use in syphilitic affections. Recommended in habitual constipation, torpidity of liver, jaundice, piles, ascites (dropsy), due to hepatic (liver) changes or obstructions."—R. BARTHOLOW, M. D.

"Highly recommended in chronic constipation, hemorrhoids (piles), is of value in pasty-looking, "putty-faced" children who are anemic (bloodless) or strumous (scrofulous), and who never have an appetite, or are subject to middle-ear trouble."—HOBART A. HARE, M. D.

"Therapy—Of benefit in bronchial cough and in treatment of croup. As an alterative it has taken front rank with Eclectics for fifty years (written 1903). It is in general use in syphilis, in scrofula, in blood-taint of any character, in tubercular disease and in the cancerous diathesis (predisposition to disease)."—FINLEY ELLINGWOOD, M. D., Bennett Medical College, Chicago, Illinois.

The United States Dispensatory says of *Stillingia*: "From the reports in its favor there seems no reason to doubt the efficacy of this medicine in secondary syphilis, scrofula, cutaneous diseases, chronic hepatic (liver) affections, and other complaints ordinarily benefited by alterative medicines."

REMARKS: A careful study of what is said of the properties and uses of Queen's root or *Stillingia Sylvatica*, and bearing in mind that "Golden Medical Discovery" is a faithful and active representative of all its valuable active medicinal principles, will readily suggest the use of the "Discovery" in chronic, or lingering bronchial and throat affections, public

speakers' sore throat, attended with hoarseness, dry, rasping cough, and kindred affections. Not only is Queen's root specific in its action in all these affections, but, in the "Golden Medical Discovery" it is greatly assisted by the Stone root, Cherrybark, Oregon Grape root, and Bloodroot with which it is skilfully combined.

Then too, in all the blood, scrofulous and skin affections, in which Queen's root is so highly recommended as an alterative, it is greatly assisted in its action by being combined in the "Golden Medical Discovery" with Sacred Bark and Bloodroot. In all blood-taints it will be found most effective. It makes *pure, rich blood*.

Stone root (*Collinsonia Canadensis*). "Alterative, tonic, stimulant. Valuable in laryngitis—'ministers' sore throat,'—in



diseases of stomach and intestines—improves appetite, promotes flow of gastric juice; tonic effect upon organs involved. A good remedy in indigestion, dyspepsia, chronic gastritis, increasing the secretion from kidneys and skin."—*American Dispensatory*.

Prof. JOHN M. SCUDDER, M. D., in his treatise entitled "*Specific Medication*," says: "Collinsonia (Stone root) is a specific in 'ministers' sore throat' (chronic laryngitis)." He continues: "It proves beneficial in other cases of chronic laryngitis, in chronic bronchitis and phthisis (consumption), allaying irritation and checking cough. It also exerts a favorable influence upon the digestive processes, improving the appetite, facilitating digestion and acting as a general tonic. It passes off through the kidneys and exerts a tonic influence upon the entire extent of the urinary tract. I regard it as one of the most direct and valuable agents of the *Materia Medica* and one that will give satisfaction to whoever employs it."

"There is no doubt of its action on the urinary organs. It has cured disorders supposed to be due to gravel, catarrh of the bladder and dropsy from deficient action of the kidneys. Cures irritation of the cardiac (heart) nerves, with rapid, regular or

irregular beating. Useful in valvular diseases."—EDWIN M. HALE, M. D., Prof. Mat. Med. in Hahnemann Medical College, Chicago, Illinois.

"Collinsonia stimulates the stomach, acts as a tonic to enfeebled muscular structure of the heart and has a direct influence upon atonic (weak) and dilated or otherwise impaired conditions of the veins. It is a specific remedy in piles. In catarrhal gastritis, where the circulation is defective, it, either alone or combined with Hydrastis, is of first importance. They increase the appetite and greatly improve the digestion and assimilation of food. Good for piles and rectal pains of the pregnant woman. Is a heart tonic of direct and permanent influence. Excellent in the bicycle heart, in rheumatic inflammation and clergyman's sore throat."—F. ELLINGWOOD, M. D.

Cherrybark (*Prunus Virginiana*). ROBERTS BARTHOLOW writes: "Wild Cherrybark is an excellent stomach tonic; it has long been held in great esteem in domestic practice as a remedy in catarrhal states of the bronchial mucous membrane and in phthisis (consumption)." "The sirup is much used as an ingredient in cough mixtures."

"The tonic influence of this agent is more markedly apparent when it is administered in disease of the respiratory apparatus (breathing organs) of a subacute (mild) or chronic (lingering) character. A common remedy for chronic coughs, the cough of nervous patients without apparent cause; is popular in the treatment of mild cases of palpitation. Palpitation from disturbed condition of the stomach is directly relieved by it."—F. ELLINGWOOD, M. D.

"Is a tonic and sedative advised in convalescence from pleurisy, pneumonia, inflammatory and febrile diseases; relieves irritation of mucous surfaces, making an admirable remedy in gastro-intestinal (stomach-bowel), pulmonic (lung) and urinary troubles. It is best adapted to chronic troubles, as hectic (wasting) fever, cough, colliquative (excessive) diarrhoea, etc.; is excellent in cardiac (heart) palpitation, anemia (bloodlessness), chlorosis (green-sickness), or nervous diseases."—*King's American Dispensatory*.

"Is astringent and tonic and largely used in phthisis (consumption), exerts an influence on the nervous system."—HORATIO C. WOOD, M. D., University of Pennsylvania.

REMARKS: We are apt sometimes to overlook, or set aside old, reliable remedies, like Cherrybark, for things of less medicinal value which are of more recent introduction to the attention of the medical profession. When made up with chemically pure glycerine as in Dr. Pierce's Golden Medical Discovery, and combined with such valuable agents as Queen's root, Stone root and Bloodroot, there can be no doubt of its great remedial value in all bronchial and throat affections. In all the long list of Catarrhal Diseases it also constitutes a very important part of the treatment. It harmonizes admirably with the Stone root, Queen's root and other ingredients in its favorable influence in heart disturbances, as in palpitation and irregular action of that organ. Read what both Drs. King and Ellingwood say of its favorable action in such cases:

Bloodroot (*Sanguinaria Canadensis*). "Stimulates digestive organs, increases action of heart and arteries—stimulant and tonic. Very valuable as a cough remedy—acts as a sedative—further valuable as an alternative."—*King's American Dispensatory*.

"Overcomes congestion of the lungs after severe cold in the chest from exposure. Given in bronchial coughs, in membranous croup. It equalizes the circulation of the entire system, inducing warmth in the skin and in the extremities. It will assist in overcoming hepatization (solidification) of lung structure and in restoring normal tone and normal functional action."—F. ELLINGWOOD, M. D.

"Has most frequently been employed in incipient phthisis, bronchitis, influenza, pneumonia, croup, asthma, diphtheria, in scarlatina, dyspnoea (short breath), dyspepsia, hydrothorax (dropsy of the chest) and jaundice."—EDWIN M. HALE, M. D.

"Its most important therapeutical effects are witnessed in diseases of the respiratory (breathing) organs. Used in croup, in chronic nasal catarrh and nasal polypi."—R. BARTHOLOW, M. D.

Sacred Bark (*Rhamnus Purshiana*—Chittimbark). "A certain remedy in cases of habitual constipation, and in some forms of indigestion. It is, undoubtedly, a valuable addition to our list of therapeutical agents, * * * * but acts best where a tonic to the intestines is required. As it tones the whole intestinal tract, it is



valuable * * * * for that dyspeptic condition which depends most largely upon constipation, and is due to intestinal weakness. Administered in large doses, it has served us nicely in sick headache, due to like causes. Loss of tone in the rectum, with constipation, giving rise to hemorrhoids, is benefited by it. It acts kindly without irritating or griping, and produces stools of a semi-fluid consistence. Has been used with asserted success in rheumatism. Chronic diarrhea, when due to hepatic sluggishness, has been checked by this agent, and it is said to be of value in gastric, duodenal, and biliary catarrh, with jaundice."—*King's American Dispensatory*.

Dr. BUNDY, the discoverer, says: "It acts upon the sympathetic nervous system, especially upon the solar plexus, stimulating the nutritive and assimilative forces, increasing the digestive processes generally. It acts upon the secretory system in a marvelous manner, especially where the secretions are deficient and perverted, and this seems to be one of its special indications."—*Materia Medica*.—F. ELLINGWOOD, M. D.

Oregon Grape Root (*Berberis Aquifolium*). *King's American Dispensatory*, by H. W. FELTER, M. D., and JOHN U. LLOYD, Ph. D.,



says: "This agent has justly been extolled as an alterative and tonic, and has been recommended in salt-rheum and other cutaneous affections, as well as in maladies supposed to be due to some mal-condition of the blood. Excretion and secretion are promoted by it; digestion and assimilation improved; the lymphatic glandular system and the ductless glands are stimulated; and the renal secretions somewhat augmented. Thus it acts as a blood-maker, and is therefore a remedy to oppose

depraved conditions of the body-fluids. As a tonic, it may be employed as a synonym of hydrastis, berberis, etc., possessing in addition its own peculiar virtues, in dyspeptic conditions, chronic mucous maladies, and in certain enfeebled conditions of the system," etc.

The United States Dispensatory says of Oregon Grape root: "Strongly recommended by various clinicians as alterative, laxative, tonic and diuretic." Very useful in scrofulous affections, in chronic skin diseases (especially of the scaly type), in the convalescence from malaria and other fevers, and in chronic uterine disease.

REMARKS: In studying the adaptability of "Golden Medical Discovery" to the treatment of disease of the different organs of the body, we may safely rely upon it to produce all and more

than all the good results to be experienced from the use of Berberis or its combined, active medicinal principles, since it is rich in all these, and besides their action is greatly enhanced by their combination with glycerine as well as with other most valuable medicinal agents.

From the well attested remedial action of Berberis and Stone root, especially in controlling affections of all the mucous surfaces, it must readily be seen how strongly indicated is its use and applicability in all catarrhal conditions, whether of the nasal passages, throat, bronchia, stomach, intestines, or of other regions.

Glycerine. "When given internally it is laxative, and it has also been suggested as a substitute for cod-liver oil in phthisis (consumption)." * * * * "The solvent and preservative properties as well as agreeable taste and permanent consistence of glycerine, render it very useful as a menstruum (a solvent) in pharmacy."—UNITED STATES DISPENSATORY.

"Stimulant antiseptic, laxative and demulcent. Glycerine may be used in some skin diseases, and in some syphilitic and strumous affections. Glycerine has been used in the place of cod-liver oil to improve nutrition in convalescence from exhaustive diseases and in asthenic conditions generally. Internally administered glycerine is somewhat laxative, and cures of chronic constipation and hemorrhoids (piles), both blind and bleeding, have been accredited to its use."—AMERICAN DISPENSATORY.

Prof. FINLEY ELLINGWOOD says of Glycerine: "For internal use Glycerine is antiseptic, laxative and nutritive, taking the place of cod-liver oil to a large extent, with children, in the latter particular. This fact is denied, but is *capable of demonstration*."

It is valuable diluted with equal parts of water to moisten the dry mouth and tongue in protracted fevers. * * * * It prevents decomposition in the stomach and encourages secretion, and if a small quantity be added to ice water and drank regularly in these fevers it is an intestinal antiseptic and nutritive."

"In dyspepsia it serves an excellent purpose. Holding a fixed quantity of the peroxide of hydrogen in solution, it is one of the best manufactured products of the present time in its action upon enfeebled, disordered stomachs, especially if there is ulceration or catarrhal gastritis (catarrhal inflammation of stomach), it is a most efficient preparation. Glycerine will relieve many cases of pyrosis (heartburn) and excessive gastric acidity. It is useful in chronic intestinal dyspepsia, especially the flatulent variety, and in certain forms of chronic constipation, stimulating the secretory and excretory functions of the intestinal glands."

Over fifty years ago, Dr. Pierce discovered that chemically pure glycerine of proper strength is a better solvent and preservative of the active medicinal principles residing in most of our

indigenous or native medicinal plants than is alcohol. As its use is entirely unobjectionable, while alcohol is well known when used even in small portions, for a protracted period, to do lasting injury to the human system, especially in the case of delicate women and children, he decided to use chemically pure glycerine instead of the usually employed alcohol in the preparation of his medicines. He found that the glycerine, besides being entirely harmless, possesses intrinsic medicinal properties of great value. Its nutritive properties, Dr. Pierce believes, far surpass those of cod liver oil, entitling it to favorable consideration in all cases of incipient consumption. In all "wasting diseases," where there is loss of flesh and gradual "running down" of the system, the glycerine certainly plays an important part in lessening the breaking down and wasting of tissue, and in promoting assimilation and increase of bodily weight. It is, in Dr. Pierce's estimation a powerful reconstructive agent in all cases of impaired vitality and especially valuable when associated and combined with such superior alteratives and tonics as are in "Golden Medical Discovery." Its wonderful solvent properties also play an important part in the cure of gall stones, severe constipation, with dry and almost impacted stools. Glycerine is also one of the very best anti-ferments and as such counteracts the excessive fermentation of food in the stomach, present in most cases of indigestion or dyspepsia. Thus the pain, belching of noxious gas, bloating and other disagreeable symptoms are overcome and the Stone root, Bloodroot and other ingredients of "Golden Medical Discovery" are greatly assisted in their action. These agents can confidently be depended upon for the most positive action in all atonic, or weak, states of the stomach accompanied with distressing indigestion or dyspepsia.

ANTISEPTICS AND DISINFECTANTS.

Antiseptics prevent, while disinfectants arrest putrefaction. Oxygen is a natural disinfectant, but a powerful inciter of change. Although this element is the cause of animal and vegetable decay, yet oxidation is the grand process by which the earth, air, and sea are purified. A few substances are both antiseptic and disinfectant. Heat up to a temperature of 140° Fahr. promotes putrescence, but above that point is a drier or disorganizer, and destroys the source of infection.

Yeast (*Cerevisiæ Fermentum*). Yeast is an antiseptic, and is effective in all diseases in which there is threatened putridity.

Carbolic Acid is used both internally and externally. *Dose*—One-fourth to one-half drop of the melted crystals, very largely diluted. Externally, one to five grains of the crystals to one ounce of the solvent.

White Vitriol (*Zinci Sulphas*). White vitriol is a valuable disinfectant as it will arrest mortification. In solution it is employed in ulcers and cancers and in putrid sore throat.

ANTISPASMODICS.

Antispasmodics are a class of remedies which relieve cramps, convulsions, and spasms, and are closely allied to nervines. Indeed some authors class them together. The following are a few of the most important antispasmodics:

Assafetida (*Assafetida Ferula*). This is a powerful antispasmodic. It is employed in hysteria, hypochondria, convulsions, and spasms, when unaccompanied by inflammation.

Yellow Jessamine (*Gelseminum Sempervirens*). The root is the part used. This is a valuable remedy in a determination of the blood to the brain; also in neuralgia.

Valerian (*Valeriana Officinalis*): The root is the part used. Valerian is an effective remedy in cases of nervousness and restlessness.

Dose—Of the tincture, one-half to two tablespoonfuls; of the ammoniated tincture of valerian, from one-half to two teaspoonfuls in sweetened water or milk.

Yellow Lady's Slipper (*Cypripedium Pubescens*). The root is the part used. This is a useful remedy in hysteria, chorea, and all cases of irritability.

High Cranberry (*Viburnum Opulus*). The bark is the part used. It is also known as Cramp Bark. This is a powerful antispasmodic, and is effective in relaxing spasms of all kinds.

ASTRINGENTS.

Astringents are medicines which arrest discharges. When taken into the mouth they produce the sensation known as puckering. They are used internally and locally. The term *styptic* is used to designate those astringents which arrest bleeding.

Witch-hazel (*Hamamelis Virginica*). The parts used are the leaves and bark. This is the most valuable astringent and exerts a specific action upon the nervous system. It arrests

Fig. 5.



Witch-hazel.

many forms of uterine hemorrhage with great promptness, is a valuable agent in the treatment of piles, and is useful in many forms of chronic throat and bronchial affections.

Blackberry Root (*Rubus Villosus*). This astringent is a favorite domestic remedy in affections of the bowels.

Dose—Of the infusion (bruised root), one-half to one ounce, sweetened.

Cranesbill (*Geranium Maculatum*). The root is used. This plant is also known as Crow-foot, and Spotted Geranium. It is a pleasant, but powerful astringent.

Dose—Of the fluid extract, ten to thirty drops; of the concentrated principle, Geranin, one to two grains.

Hardhack (*Spirea Tomentosa*), Spirea, or Meadow Sweet. The stem and leaves are used. It is a tonic and an

astrigent, and is used in diarrhea and cholera-infantum.

Dose—Of the infusion, one-half to one ounce; of the fluid extract, three to six drops.

Bugle-weed (*Lycopus Virginicus*). This is variously known as Water-hoarhound and Water-bugle. It is sedative and tonic, as well as astrigent, and is employed in hemorrhages and in incipient phthisis.

Dose—Of the infusion, one to two ounces; of the fluid extract, fifteen to twenty-five drops; of the concentrated principle, Lycopin, one-half to one grain.

Catechu (*Acacia Catechu*). A tincture of this plant is a pure, powerful astrigent, and is especially useful in chronic diarrhea, chronic catarrh, and chronic dysentery.

Dose—Of the powder, five to twenty grains; of the tincture, one-half to two teaspoonfuls.

Tannin (*Acidum Tannicum*). This acid has a wide range of application. It is used as an astrigent.

Dose—One to five grains.

Gallic Acid (*Acidum Gallicum*). This remedy is used chiefly in hemorrhages.

Dose—Three to five grains. In cases of severe hemor-

Fig. 6.



Bugle-weed.

rhages, this quantity should be administered every half hour, and until the bleeding has been checked.

Fig. 7.



Canada Fleabane.

Canada Fleabane

(*Erigeron Canadense*). The leaves and flowers are used. This plant, sometimes known as Colt's-tail, Pride-weed, or Butter-weed, is astringent, and has been efficiently employed in uterine hemorrhages.

Dose—Of the infusion (two ounces of the herb to one pint of water), one to two ounces; of the oil, five to ten drops on sugar, repeated at intervals of from one to four hours.

CARMINATIVES.

Carminatives are medicines which allay intestinal pain, arrest or prevent griping by cathartics and exert a general soothing effect. They are aromatic, and to a certain extent, stimulant.

Anise-seed (*Pimpinella Anisum*). Anise is a pleasant, aromatic carminative, and is used in flatulent colic.

Dose—Of the powdered seed, ten to fifteen grains; of the infusion (a teaspoonful of seed to a gill of water), sweetened, may be given freely; of the oil, five to ten drops on sugar.

Fennel-seed (*Anethum Foeniculum*). This is one of our most grateful aromatics, and is sometimes employed to modify the action of senna and rhubarb.

Dose—Same as that of anise-seed.

Ginger (*Zingiber Officinale*). The root is the part used. This is a grateful stimulant and carminative. *Dose*—Of the powder, ten to twenty grains; of the infusion, one teaspoonful in a gill of water; of the tincture, twenty to thirty drops; of the essence, ten to fifteen drops; of the syrup, one teaspoonful.

Wintergreen (*Gaultheria Procumbens*). The leaves are used. This plant possesses stimulant, aromatic, and astringent properties. The essence of Wintergreen is carminative, and is used in colics.

Dose—Of the essence, one-half to one teaspoonful in sweetened water; of the oil, three to five drops on sugar.

Peppermint (*Mentha Piperita*). Peppermint is a powerful stimulant, carminative, and antispasmodic. It is used in the treatment of spasms, colic, and hysteria.

Dose—The infusion may be used freely. The essence may be taken in doses of fifteen to thirty drops in sweetened warm water; of the oil, one to five drops on sugar.

Spearmint (*Mentha Viridis*). The carminative properties of spearmint are inferior to those of peppermint, and its chief employment is for its diuretic and febrifuge virtues.

Dose—Same as that of peppermint.

Smart-weed. Dr. Pierce's Smart-weed is a valuable carminative and aromatic stimulant, and has been employed with marked success in all diseases in which this class of remedies is required.

CATHARTICS.

Cathartics, or *Purgatives* are medicines which act upon the bowels and increase the secretions and evacuations. In many parts of the country, these agents are known as purges, or physics. They have been variously divided and sub-divided, usually with reference to the energy of their operations or the character of the evacuations produced.

Laxatives, or *Aperients*, are mild cathartics. Purgatives act with more energy and produce several discharges which are of a more liquid character and more copious than the former.

Drastics are those cathartics which produce numerous evacuations accompanied by more or less intestinal irritation.

Hydragogues are those purgatives which produce copious, watery discharges.

Cholagogues are those purgatives which act upon the liver, stimulating its functions. Cathartics constitute a class of remedies which are almost universally employed by families and physicians.

Fig. 8.



Culver's-root.

Jalap (*Ipomœa Jalapa*). The root is used. It is a drastic and a hydragogue cathartic. Formerly it was combined with equal parts of calomel. From this fact it received the name of "ten and ten."

Dose—Of the powder, five to twenty grains; of the fluid extract, ten to fifteen drops; of the solid extract, two to four grains; of the concentrated principle, Jalapin, one-half to two grains.

Gamboge (*Gambogia*). The gum is used. Gamboge is a powerful drastic, hydragogue cathartic, which is apt to produce nausea and vomiting. It is employed in dropsy. It should never be given alone, but combined with milder cathartics. It accelerates their action while they moderate its violence.

Dose—Of the powder, one-half to two grains. This substance combined with aloes and sometimes with scammony, constitutes the basis of the numerous varieties of large, cathartic pills found in the market.

Culver's-root. (*Leptandra Virginica*). The root is used. This plant, known under the various names of Culver's Physic, Black-root, Tall Speedwell, and Indian Physic, is a certain cholagogue, laxative, and cathartic.

Dose—Of decoction, one to two fluid ounces; of fluid extract, ten to twenty drops; of tincture, twenty to thirty drops; of the concentrated, active principle, Leptandrin, which is but feebly cathartic, as a laxative, two to five grains.

Rhubarb (*Rheum Palmatum*). This is much used as a domestic remedy, and by the profession, for its laxative, tonic, and astringent effects. It is employed in bowel complaints.

Dose—Of the powder, ten to thirty grains; of the tincture, one-half to two teaspoonfuls; of the fluid extract, ten to thirty drops; of the solid extract, three to five grains; of the syrup, and aromatic syrup, an excellent remedy for children, one-half to one teaspoonful.

Cascara Sagrada (*Rhamnus Purshiana*), is a very efficient remedy in chronic constipation.

Dose—Of the fluid extract, from ten to twenty drops taken in a tablespoonful of water. The unpleasant taste may be disguised with the extract of liquorice.

Castor Oil (*Oleum Ricini*).

Dose—From one to four teaspoonfuls. It may be disguised by rubbing it with an equal quantity of glycerine and adding one or two drops of oil of anise, cinnamon, or wintergreen.

Butternut (*Juglans Cinerea*). The bark is the part used. Butternut is a mild cathartic, which resembles rhubarb in its property of evacuating the bowels without irritating the alimentary canal.

Dose—Of the extract, as a cathartic, five to ten grains; of the fluid extract, one-half to one teaspoonful; of the concentrated principle, Juglandin, one to three grains. As a laxative, one-half of these quantities is sufficient.

Aloes (*Aloe*). The gum is used. This cathartic acts upon the lower part of the bowels and sometimes causes piles; though some late authors claim that in small doses it is a valuable remedy for piles.

Dose—In powder or pill, three to ten grains; as a laxative, one to three grains.

Epsom Salts (*Magnesia Sulphas*). Its common name is "Salts." Much used in domestic practice.

Dose—One-fourth to one-half ounce.

Doctor Pierce's Pleasant Pellets, being entirely vegetable in their composition, operate without disturbance to the system, diet, or occupation. Put up in glass vials. Always fresh and reliable. As a laxative, alterative, or gently acting but searching cathartic, these little "Pellets" give the

most perfect satisfaction. Sick Headache, Bilious Headache, Dizziness, Constipation, Indigestion, Bilious Attacks, and many derangements of the stomach and bowels, are promptly relieved by the use of Doctor Pierce's Pleasant Pellets. In explanation of the remedial power of these "Pellets" over so great a variety of diseases, it may truthfully be said that their action upon the system is like a universal bath, not a gland or tissue escaping their sanative influence.

Everybody, now and then, needs a gentle laxative to assist nature a little; or, a more searching and cleansing, yet gentle cathartic, to remove offending matter from the stomach and bowels and tone up and invigorate the liver and quicken its tardy action. Thereby the "Pleasant Pellets" relieve biliousness, sick and bilious headache, costiveness, or constipation of the bowels, sour stomach, windy belchings, "heart-burn," pain and distress after eating, and kindred derangements of the liver, stomach and bowels.

Persons subject to any of these troubles should never be without a vial of the "Pleasant Pellet" at hand. In proof of their superior excellence it can be truthfully said that they are always adopted as a household remedy after the first trial.

The "Pleasant Pellets" are far more effective in arousing the liver to action than "blue pills," the old-fashioned compound cathartic pills, calomel or other mercurial preparations, and have the further merit of being purely vegetable in their composition and perfectly harmless in any condition of the system. Furthermore, no particular care is required while using them.

Being composed of the choicest, concentrated vegetable extracts, their cost of production is much more than that of most pills found in the market, yet from forty to forty-four of them are put up in each glass vial, as sold through druggists, and can be had at the price of the more ordinary and cheaper made pills. Once used, they are always in favor. Their secondary effect is to keep the bowels open and regular, not to further constipate, as is usually the case with other pills. Hence, their great popularity with sufferers from habitual constipation, piles and their attendant discomfort and manifold derangements.

For all laxative and cathartic purposes the "Pleasant Pellets" are infinitely superior to all "mineral waters," sediltz

powders, "salts," castor oil, fruit syrups (so-called), laxative "teas," and the many other purgative compounds sold in various forms.

If people generally, would pay more attention to properly regulating the action of their bowels, they would have less frequent occasion to call for their doctor's services to subdue attacks of dangerous diseases. Hence it is of great importance to know what safe, harmless agent best serves the purpose of producing the desired action.

DIRECTIONS FOR USING DOCTOR PIERCE'S PLEASANT PELLETS.

In all cases, the size of dose to be taken must be regulated somewhat by the known susceptibility of the individual to the action of laxative and cathartic medicines. Some persons' bowels are readily acted upon by small doses, while others require more. As a general rule, the smaller doses which we recommend, are quite sufficient, and produce the best results if persisted in for a reasonable length of time.

FOR A GENTLE APERIENT, OR LAXATIVE, take one or not more than two and preferably in the morning, on an empty stomach.

FOR A GENTLE CATHARTIC, two or three are generally sufficient, if taken in the morning, on an empty stomach.

FOR A VERY ACTIVE, SEARCHING CATHARTIC, four to six may be taken in the morning, on an empty stomach.

FOR A CHILD OF TWO TO FOUR YEARS, one-half of a "Pellet" given in a little sauce of some kind, or soft candy, will be sufficient for a laxative, or one for a mild cathartic.

FOR A CHILD OF FOUR TO EIGHT YEARS, one for a laxative or two for a cathartic will act nicely, if given on an empty stomach.

AS A DINNER PILL.—To promote digestion and increase the appetite, take only one "Pellet" each day after dinner.

To overcome the disagreeable effects of a too hearty meal, take two "Pellets" as soon as conscious of having overloaded the stomach.

IN ALL CHRONIC DISEASES, it is of the utmost importance that the bowels be kept *regular*, yet thorough purgation should be avoided, as it tends to debilitate the system. Small laxative doses of one or at most two "Pellets," taken daily and con-

tinued for a long time, is the plan that we would recommend to produce the best results.

IN DROPSY, an occasional active cathartic dose of the "Pellets" of say four to six, taken once in a week or ten days, will do good, if, in the interval between these doses, Dr. Pierce's Golden Medical Discovery be taken to invigorate and regulate the system.

TO BREAK UP SUDDEN ATTACKS OF COLDS, FEVERS, AND INFLAMMATIONS.—It is only in these sudden and severe attacks of *acute* diseases that we recommend the "Pellets" to be taken in active purgative doses, and in these cases *only one* large or cathartic dose of say five or six "Pellets" should be taken.

In colds, fevers, and inflammatory attacks, warm sweating teas should be taken freely, and hot foot baths, or a hot general bath, employed to assist in equalizing the circulation of the blood and restoring the equilibrium of the system.

SUPPRESSED MENSTRUATION.—This combined treatment of an active dose of "Pellets," coupled with the use of a hot bath, foot bath, or, better still, a hot sitz-bath, will bring on *menstruation*, when suppressed from taking cold. In the latter case the effect will be insured, if, in addition to the use of the "Pellets" and baths, a full dose of Dr. Pierce's Smart-Weed, or "Water-Pepper," be also used.

CAUSTICS.

Caustics are substances which have the power of destroying or disorganizing animal structures. By their action they destroy the tissue to which they are applied, and form a crust, which is thrown off by a separation from the parts beneath. Their caustic property may be destroyed by dilution with other substances, to such an extent that they will only irritate or stimulate, and not destroy. Much care is necessary in their employment, and it is not expected that the unprofessional reader will have much to do with them; hence, we have deemed it best not to give a list of these agents.

COUNTER-IRRITANTS.

Counter-irritants are substances which produce irritation of the part to which they are applied, varying in degree from a slight redness to a blister or pustule. They are applied to the surface with a view of producing an irritation to relieve irri-

tation or inflammation in some other or deeper seated part. They are a class of agents which we very seldom employ, and,

Fig. 9.



Pleurisy-root.

hence, we shall notice only a couple of the most simple.

Mustard (*Sinapis*). The flour of mustard, which is best adapted for domestic use, is employed in the form of a paste spread on cloth. It takes effect in a few moments; the length of time it remains in contact with the skin and the strength of the mustard determine the effect produced.

Horse-radish (*Cochlearia Armoracia*). The leaves are the

parts used. Let them wilt and bind them on the part affected. They act nearly as energetically as mustard.

DIAPHORETICS.

Diaphoretics are medicines which increase perspiration. Those which occasion profuse sweating are termed *Sudorifics*. The two terms indicate different degrees of the same operation. They constitute an important element in domestic practice, on account of the salutary effects which generally follow their action. Their operation is favored by warmth externally, and warm drinks, when they are not given in hot infusion.

Pleurisy-root (*Asclepias Tuberosa*), is also known as

White-root, and Butterfly-weed. It is a valuable remedy, well adapted to break up inflammations and diseases of the chest.

Dose—Of infusion, one to two ounces; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Asclepin, one to three grains.

Saffron (*Crocus Sativus*). Golden Saffron.

Dose—Of infusion (one drachm to a pint of water), one to two ounces.

Sage (*Salvia Officinalis*). The warm infusion drunk freely is a valuable, domestic diaphoretic.

Virginia Snake-root (*Aristolochia Serpentaria*), is an efficient agent.

Dose—Of infusion, one to two ounces; of tincture, one-fourth to one teaspoonful; of fluid extract, one-fourth to one-half teaspoonful.

Jaborandi (*Pilocarpus Pinnatus*). Jaborandi increases the flow of saliva, causes profuse perspiration, and lowers the temperature of the body. In doses of from twenty to sixty drops of the fluid extract, administered in a cup of warm

water or herb-tea on going to bed, we have found it very effectual for breaking up recent colds. We have also found it valuable in whooping-cough, in doses of from three to ten drops, according to the age of the child, given three or four

Fig. 10.



Virginia Snake-root.

times a day. The fluid extract may be obtained at almost any drug-store.

May-weed (*Maruta Cotula*), is also known as Wild Chamomile, and Dog-fennel. It is not much used, though it is a powerful diaphoretic.

Dose—Of infusion, one to two ounces.

Fig. 11.



May-flower.

Catnip (*Nepeta Cataria*). A deservedly popular, domestic remedy, always acceptable, and certain in its action. The warm infusion is the best form for its administration. It may be drunk freely.

Ginger (*Zingiber Officinale*). The hot infusion may be sweetened and drunk as freely as the stomach will bear.

Dr. Pierce's Smart-weed. This is unsurpassed as a diaphoretic agent, and is much more certain in its operation than any simple diaphoretic.

DILUENTS.

Any fluid which thins the blood or holds medicine in solution is called a diluent. Pure water is the principal agent of this class. It constitutes about four-fifths of the weight of the blood, and is the most abundant constituent of the bodily tissues. Water is necessary, not only for digestion, nutrition, and all functional processes of life, but it is indispensable as a menstruum for medicinal substances. It is a necessary agent in depuration, or the process of purifying the animal economy, for it dissolves and holds in solution deleterious matter, which in this state may be expelled from the body. In fevers, water is necessary to quench the thirst, promote absorption, and incite the skin and kidneys to action. Its temperature may be varied according to requirements. Diluents are the vehicles for introducing medicine into the system. We shall briefly mention some which prove to be very grateful to the sick.

Various vegetable acids and jellies may be dissolved in water, as apple, currant, quince, grape, or cranberry.

The juice of lemons, oranges, pine-apples, and tamarinds, is also found to be refreshing to fever patients.

Sassafras-pith, slippery-elm bark, flax-seed, and gum arabic make good mucilaginous drinks for soothing irritation of the bowels and other parts.

Brewers' Yeast mixed with water in the proportion of from one-eighth to one-fourth is a stimulant and anti-septic.

The white ashes of hickory or maple wood dissolved in water make an excellent alkaline drink in fevers, or whenever the system seems surcharged with acidity.

DIURETICS.

Diuretics are medicines which, by their action on the kidneys, increase the flow of urine.

Marsh-mallow (*Althea Officinalis*), is used in irri-

Fig. 12.



Marsh-mallow.

table conditions of the urinary organs. The infusion may be drunk freely.

Gravel-plant (*Epigea Repens*), is also known as Water-pink, Trailing-arbutus, or Gravel-root. *Dose*—Of decoction of

the plant, one to three ounces; of fluid extract, one-fourth to one-half teaspoonful.

Stone-root (*Collinsonia Canadensis*), is also known as Knot-root, Horse-balm, Rich-weed, or Ox-balm. This is a mild diuretic, slow in action, yet effective in allaying irritation of the bladder. The root is the part used.

Dose—Of infusion, one to two ounces; of fluid extract, five to ten drops; of the concentrated principle, Collinsonin, one-half to one grain.

Foxglove (*Digitalis purpurea*) slows the action of the heart, lowers the temperature, and acts indirectly as a diuretic. It is especially valuable in the treatment of scarlet fever and in dropsy.

Dose—Of infusion, one-half drachm to one-half ounce; of the fluid extract or strong tincture, from two to ten drops. It should be used with caution. A poultice made of the leaves and placed over the kidneys is an effectual method of employing the drug.

Queen of the Meadow (*Eupatorium Purpureum*), is also known as Gravel-weed, Gravel-root, or Trumpet-weed. This is a most valuable diuretic. *Dose*—Of the

Fig. 13.



Stone-root.

infusion, one to three ounces; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Eupatorin (*Purpu*), one-half to two grains.

Buchu (*Barosma Crenata*). The leaves are used. This agent has been extensively employed, generally in compounds.

Dose—Of infusion, (steeped for two hours or more,) one to two ounces; of fluid extract, the same; of the concentrated principle, Barosmin, one to three grains.

Pipsissewa (*Chimaphila Umbellata*), or Prince's Pine. This is a tonic to the kidneys, as well as a diuretic and alterative, and is a mild, but very efficient remedy.

Dose—Of decoction, one ounce from four to six times a day; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Chimaphilin, one to two grains.

Water-melon Seeds (*Cucurbita Citrullus*). *Dose*—Of infusion, the patient may drink freely until the desired effect is secured.

Pumpkin Seeds (*Cucurbita Pepo*). They are mild, unirritating, yet effective diuretics. An infusion of these may be drunk freely.

Sweet Spirit of Nitre (*Spiritus Ætheris Nitros*), is diuretic and anodyne.

Dose—One-fourth to one-half teaspoonful, diluted in water, every two or three hours.

Saltpetre (*Potassæ Nitræs*). *Dose*—Powdered, five to ten grains.

Acetate of Potash (*Potassæ Acetas*). *Dose*—Ten to fifteen grains, largely diluted in water. It is more frequently used for this purpose than the nitrate. It is a most valuable diuretic.

Dr. Pierce's Anuric Tablets are a mild stimulant diuretic. If your druggist cannot supply you, send 65 cents direct to Dr. Pierce's Laboratory in Buffalo, N. Y.

EMETICS.

These are medicines which cause vomiting and evacuation of the stomach. Some of the agents of this class, termed irritant emetics, produce vomiting by a local action on the stomach, and do not affect this organ when introduced elsewhere. Others, which may be termed systemic emetics, produce their effects through the nervous system, and, therefore, must be absorbed into the circulation before they can produce vomiting. In cases of poisoning, it is desirable to empty the stomach as quickly as possible, hence irritant emetics should be employed, for they act more speedily. Draughts of warm water favor the action of emetics.

Mustard (*Sinapis*) acts promptly and efficiently as an emetic, and may be employed in poisoning.

Dose—From one to two teaspoonfuls of powdered mustard, stirred up in a glass of tepid water. It should be quickly swallowed and diluents freely administered.

Sulphate of Copper (*Cupri Sulphas*) is a prompt, irritant emetic. It should be given in doses of ten grains dissolved in half a glass of water, and its action assisted by the free use of diluents.

Sulphate of Zinc (*Zinci Sulphas*) is similar in its effects to sulphate of copper, but less powerful, and may be taken in the same manner, and the dose repeated if necessary in fifteen minutes.

Yellow Subsulphate of Mercury (*Hydrargyri Sulphas flava*), commonly known as *Turpeth Mineral*, is an efficient and most desirable emetic in membranous croup. It is an active poison, but, as it is quickly thrown up with the contents of the stomach, there is no danger from its administration.

Dose—It should be given to a child in doses of from three to five grains, in the form of powder, rubbed up with sugar of milk.

Ipecac (*Cephaelis Ipecacuanha*). In large doses Ipecac is a systemic emetic. In small doses, it exerts a specific

Fig. 14.



Lobelia.

influence upon the mucous membranes, relieves nausea and irritation, and subdues inflammation. In cholera infantum it is an invaluable remedy, if given in very small doses. By allaying irritation of the stomach and restoring tone and functional activity to it and the bowels, it gradually checks the discharges and brings about a healthy condition. It is also valuable in dysentery, and is borne in large doses. As an emetic the dose is, of powder, five to ten grains in warm water; of fluid extract, ten to twenty drops.

Lobelia (*Lobelia Inflata*), sometimes known as Indian Tobacco, or Emetic-weed. The herb and seeds are used. This is a powerful, systemic emetic but very depressing.

Dose—Of the powdered leaves, fifteen to twenty grains; of the infusion, one to three ounces; of the fluid extract, ten to fifteen drops.

Boneset (*Eupatorium Perfoliatum*). *Dose*—Of the warm infusion or decoction, two to three ounces; of the fluid

extract, one teaspoonful in hot water; of the concentrated principle, Eupatorin, two to five grains.

EMMENAGOGUES.

Emmenagogue is a term applied to a class of medicines which have the power of favoring the discharge of the menses. We shall mention only a few of those which are best adapted to domestic use.

Pennyroyal (*Hedeoma Pulegioides*). Pennyroyal, used freely in the form of a warm infusion, promotes perspiration and excites the menstrual discharge when recently checked. A large draught of the infusion should be taken at bed-time. The feet should be bathed in warm water previous to taking the infusion.

Black Cohosh (*Cimicifuga Racemosa*). Black Cohosh, known also as Black Snake-root, is an effective remedy in uterine difficulties.

Dose—Of the tincture, twenty drops; of the fluid extract, ten drops.

Tansy (*Tanacetum Vulgare*). Tansy is beneficial in suppressed menstruation.

Dose—Of the infusion, from one to four fluid ounces.

Ergot (*Secale Cornutum*) in very small doses acts as an emmenagogue, and in large doses it checks hemorrhage. The dose of the fluid extract, as an emmenagogue, is from two to five drops, and to arrest hemorrhage, from half a drachm to two drachms, repeated in from one to three hours.

Life-root (*Senecio Gracilis*). Life-root exerts a peculiar influence upon the female reproductive organs, and used with cinnamon and raspberry leaves stops flooding. It is very

Fig. 15.



Pennyroyal.

efficacious in promoting the menstrual flow, and is a valuable agent in the treatment of uterine diseases.

Dose—Of the decoction, four fluid ounces three or four times a day; of the fluid extract, from one-fourth to one-half teaspoonful.

Motherwort (*Leonurus Cardiaca*). Motherwort is usually given in warm infusion, in suppression of the menses from cold.

Dose—Of the decoction, from two to three fluid ounces every one or two hours.

Dr. Pierce's Favorite Prescription is an efficient remedy in cases requiring a medicine to regulate the menstrual function. Full directions accompany every bottle.

Dr. Pierce's Compound Extract of Smart-weed is an excellent emmenagogue. Dr. Eberle, a very celebrated medical writer, and author of a work on medicine which is very popular with the profession, says that he has used the "Extract of Smart-weed" in twenty cases of amenorrhea (suppressed menstruation), and affirms "with no other remedy or mode of treatment have I been so successful as with this." Full directions accompany every bottle. It is sold by all druggists.

EXPECTORANTS.

Expectorants are medicines which modify the character of the secretions of the bronchial tubes, and promote their discharge. Most of the agents of this class are depressing in their influence and thus interfere with digestion and healthy nutrition. Their application is very limited, hence we shall dismiss them without further consideration.

LINIMENTS.

Liniments are medicines designed for external application. The benefits arising from their use depend upon their derivative power, as well as upon the anodyne properties which many of them possess, rendering them efficacious for soothing pain. We cannot mention a more valuable agent of this class than

Dr. Pierce's Compound Extract of Smart-weed.

As an external application this preparation subdues inflammation and relieves pain. For all wounds, bruises, sprains,

bee-stings, insect and snake-bites, frost-bites, chilblains, caked breast, swollen glands, rheumatism, and, in short, for any and all ailments, whether afflicting man or beast, requiring a direct external application, either to allay inflammation or soothe pain, the "Extract of Smart-weed" cannot be excelled.

NARCOTICS.

A narcotic is a remedy which, in *medicinal* doses, allays morbid sensibility, relieves pain, and produces sleep; but which, in overdoses, produces coma, convulsions, and death. The quan-

Fig. 16.



Henbane.

tity necessary to produce these results varies in different individuals. We shall mention a few of those most frequently employed.

Henbane (*Hyoscyamus Niger*). The leaves and seeds are used. Henbane, in large doses, is a powerful narcotic and dangerously poisonous. In medicinal doses, it is anodyne and

antispasmodic; it allays pain, induces sleep, and arrests spasms. *Dose*—Of the fluid extract, five to ten drops; of the solid extract, from one-half to one grain; of the concentrated principle, Hyoscyamin, from one-twelfth to one-fourth of a grain.

Indian Hemp (*Cannabis Indica*). An East Indian plant. *Dose*—Of the extract, from one-fourth to one-half grain; of the tincture, from three to eight drops; of the fluid extract, from two to five drops. The plant known as Indian Hemp, growing in this country, possesses very different qualities.

Fig. 17.



Stramonium.

Stramonium (*Datura Stramonium*). Stramonium, also known as Thorn-apple, in large doses is a powerful narcotic poison. In medicinal doses it acts as an anodyne and antispasmodic.

Dose—Of extract of the leaves, from one-half to one grain; of the fluid extract, from three to six drops.

NERVINES.

These are medicines which act on the nervous system, soothing excitement and quieting the condition known as "nervousness."

Hops (*Humulus Lupulus*). *Dose*—Of infusion, one to three ounces; of the fluid extract, one-fourth to one-half teaspoonful of the concentrated principle, Humulin, two to three grains.



Fig. 18.

Scull-cap.

Scull-cap (*Scutellaria Laterifolia*). The herb is used. It is also known as Mad-dog weed. This is a valuable remedy.

Dose—Of infusion, one to two ounces; of the fluid extract, ten to twenty drops; of the concentrated principle, *Scutellarin*, one to two grains.

Lady's Slipper (*Cypripedium Pubescens*). The root is used. *Dose*—Of the infusion, one-half to one-ounce; of the

fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Cypripedin, one to two grains.

Pulsatilla (*Pulsatilla Nigricans*). We employ the German tincture, prepared from the green herb. In many of the distressing nervous complications to which both males and females are subject in certain diseases of the generative organs, we have found it very effectual. The dose is from two to eight drops.

Dr. Pierce's Favorite Prescription. This is a tonic nervine of unsurpassed efficacy, combined in such a manner, that, while it quiets nervous irritation, it strengthens the enfeebled nervous system, restoring it to healthful vigor. In all diseases involving the female reproductive organs, with which there is usually associated an irritable condition of the nervous system, it is unsurpassed as a remedy. It is also a uterine and general tonic of great excellence. It is sold by all druggists in both liquid and tablet form.

SEDATIVES.

Sedatives are a class of agents which control excitation of the circulation, and diminish irritability of the nervous system.

Aconite (*Aconitum Napellus*). The parts used are the root and leaves. Aconite slows the pulse, diminishes arterial tension, and lowers the temperature of the body in fevers. It is an effectual remedy in acute inflammation of the tonsils and throat, in acute bronchitis, in inflammation of the lungs, and pleurisy, in the hot stage of intermittent and remittent fevers, in the eruptive fevers, in fever arising from a cold, and in some forms of neuralgia. Acute suppression of the menses from a cold, may be relieved by the tincture of aconite in drop doses every hour.

Dose—Of the tincture of the root, from one-half of a drop to two drops, in a spoonful of water. In acute fevers and inflammations, from one-half drop to one drop should be administered every half hour or hour, according to the severity of the symptoms.

Peach Tree (*Amygdalus Persica*). Peach tree leaves and bark are slightly sedative, but the chief use which we have found for these articles is to control nausea and vomiting arising from irritability of the stomach. It also possesses

mild, tonic properties. *Dose*—Of infusion of the bark of the small twigs or of the leaves, from two to six teaspoonfuls.

American Hellebore (*Veratrum Viride*) is also known

Fig. 19.



American Hellebore.

as White Hellebore, Indian Poke, or Swamp Hellebore. The root is the part used. It is a most valuable agent with which

to control the frequent, strong, bounding pulse common to many febrile and inflammatory diseases. When the pulse is hard, incompressible, and bounding, this remedy is more effectual than aconite.

Dose—Of the tincture and fluid extract, from one to two drops, repeated every half hour to two hours, according to the severity of the symptoms. This remedy should be given in very small doses, frequently repeated, if we would secure its best effects. Our favorite mode of administering both veratrum and aconite is to add ten drops of the tincture to ten or fifteen teaspoonfuls of water, of which one teaspoonful may be administered every hour.

Yellow Jessamine (*Gelseminum Sempervirens*). The root is the part used. Through its controlling effect over the sympathetic nervous system, this agent exerts a marked influence in controlling morbid excitability of the circulatory organs. It allays irritation, and determination of blood to the brain, indicated by flushed face, contracted pupils, irritability, and restlessness, a frequent condition in diseases incident to childhood. Its concentrated principle, Gelsemin, is an efficient remedy in bloody-flux or dysentery. It should be administered in very small doses to secure the best results. Only one-sixteenth to one-eighth of a grain is required, repeated every two hours. It should be triturated with sugar of milk or with common white sugar, in the proportion of one grain to ten of sugar. *Dose*—Of tincture, from five to fifteen drops; of fluid extract, three to six drops; of Gelsemin, as a sedative, one-fourth to one-half grain.

STIMULANTS.

Stimulants are medicines which have the power of increasing the vital activity of the body. Some have a very transient action, while others are more permanent in effect.

Cayenne Pepper (*Capsicum Annuum*). Cayenne Pepper is a powerful stimulant. *Dose*—Of the powder, from one to six grains, administered in milk; of the tincture, from five to ten drops, largely diluted in milk or water.

Black Pepper (*Piper Nigrum*). Black Pepper is a warm, carminative stimulant. *Dose*—From five to fifteen grains; of the fluid extract, from ten to fifteen drops.

Prickley-ash (*Xanthoxylum Fraxineum*). Prickly-ash bark is a stimulant and tonic. The parts used are the bark and leaves.

Dose—Of the fluid extract, from five to fifteen drops; of the tincture, ten to twenty drops; of the active principle, Xanthoxylin, one to two grains.

Alcohol is a powerful stimulant. It is never used in its pure state in medicine, but when diluted forms a useful remedy in many diseases. It is generally employed in the form of whisky, gin, rum, brandy, and wine.

Ammonia is an excellent stimulant.

Dose—Of the carbonate, from three to five grains; of the sesquicarbonate, from five to ten grains; this is the same as the carbonate, which has been exposed to the air and slacked (powdered hartshorn); of the aromatic spirit, from one-half to one teaspoonful. The Aqua Ammonia and Liquor Ammonia are of such variable strength that they are seldom employed internally, but may be applied externally and taken by inhalation.

Dr. Pierce's Smart-

weed. This quickly diffusible stimulant and genial anodyne we have spoken of under the head of Anodynes. But its medicinal properties equally entitle it to a place and mention under the class of stimulants. As a stimulant it spurs the nervous system and arouses the circulatory forces. Congestion of the lungs, liver, bowels, or uterus, embarrasses the functions

Fig. 20.



Prickley-ash.

of these organs. Frequently this congestive difficulty may be entirely obviated, and the circulation of the blood restored to the surface of the body, by the administration of a few doses of this pleasant remedy. Thus it often acts like magic in giving relief, promoting the circulation and restoring the organs to their accustomed functional activity. Full directions accompany every bottle.

TONICS.

Tonics are remedies which moderately exalt the energies of all parts of the body, without causing any deviation of healthy function. While stimulants are transient in their influence, tonics are comparatively permanent.

White Poplar (*Liriodendron Tulipifera*), called also American Poplar, or White Wood. The part used is the inner bark. This is a mild but valuable tonic for domestic use.

Fig. 21.



White Poplar.

Dose—Of the infusion, from one-half to one ounce; of the tincture, from one to two teaspoonfuls.

Chamomile (*Anthemis Nobilis*). The part used is the flowers. This is a mild, unirritating tonic.

Dose—Of the infusion (one-fourth ounce of flowers to a pint of water), one-half to one ounce.

Gentian (*Gentiana Lutea*). The root is the part used. This is a favorite domestic tonic in many localities.

Dose—Of powdered root, five to ten grains; of the tincture, ten to twenty drops; of the fluid extract, five to ten drops, four or five times a day.

Willow (*Salix Alba*). Willow is a tonic and an astringent. *Dose*—Of the decoction, from one to two fluid ounces; of the concentrated principle, Salicin, two to four grains.

Gold Thread (*Coptis Trifolia*). Gold Thread is a pure and powerful, bitter tonic, and is also efficacious as a wash for sore mouth or as a gargle. *Dose*—Of the tincture, from ten to twenty drops; of the fluid extract, from five to ten drops.

Iron (*Ferrum*). Different preparations of iron are frequently prescribed by physicians. They are particularly valuable in anemic conditions of the system.

Dr. Pierce's Irontic Tablets are very valuable for anemic (thin-blooded) people. These *Iron-Tonic Tablets* are composed of a soluble Iron, nux, and herbal extracts, and can be procured in drug stores at sixty cents a bottle.

Doctor Pierce's Favorite Prescription. The "Favorite Prescription," in addition to the properties already described, likewise possesses tonic properties. The mere mention of the ingredients is sufficient proof of this, but we will go a step farther and note the opinions of authors, and submit short extracts from the dispensaries:

The "Favorite Prescription" is made principally of Viburnum, Lady's Slipper root, Black Cohosh root, Unicorn root, Blue Cohosh root, Oregon Grape root. We will consider them in the same order.

Viburnum.—A. C. COWPERTHWAIT, M. D., Ph. D., in his "Text-Book of Materia Medica and Therapeutics," says: "Viburnum has proved to be an invaluable remedy in dysmenorrhœa, especially of the congestive or neuralgic type, and often temporarily relieves in the membranous and obstructive varieties. It is a valuable remedy for after-pains, threatened abortion, intense cramp in uterus and bearing-down pain; or pain around the back, ending in excruciating pain in lower abdomen. Leucorrhœa. Has been used in hysteria, with painful menstruation. Spasmodic dysuria."

KING'S AMERICAN DISPENSATORY says of Viburnum: "Its principal use at the present day is in disorders of female organs of reproduction. As an uterine tonic, it is unquestionably of great utility. It restores normal enervation, improves the circulation, and corrects impaired nutrition of these organs. In irritable condition of the uterus incident to highly nervous women, or as a result of over-work, it will be found an admirable agent. It is called for in weakened conditions of the body, with feeble performance of the uterine function. In dysmenorrhœa with deficient menses, uterine colic, and those cases where there are severe lumbar and bearing-down pains it will prove an efficient drug. It is specially indicated in cramps, like menstrual pains; pains decidedly expulsive, and intermittent in character, and in the various painful contractions of the pelvic muscles, so common to disorders of women. Uterine congestion and chronic uterine inflammation are often greatly relieved by it. It acts promptly in spasmodic dysmenorrhœa, especially with excessive flow. It is a

good remedy for uterine hemorrhage attending the menopause; in amenorrhœa, in pale, bloodless subjects the menses are restored by it. Cramps of limbs attending pregnancy yield to it. It is considered almost specific for cramp in the legs, not dependent upon pregnancy, especially when occurring at night. The condition for which it is most valued is threatened abortion. It is the most prompt drug in the *Materia Medica* to check abortion.

W. A. DEWEY, M. D., in "Practical Homeopathic Therapeutics," says of *Viburnum*: "Its key-note are bearing-down, aching in sacral and pubic regions, excruciating cramp, colicky pains in hypogastrium, much nervousness and occasional shooting pains in the ovaries." Again, he says of it: "For threatening miscarriage, when pains come from the back around to the lower part of the abdomen and go into the thighs. It will often stop these spasmodic pains. It is a remedy to be used in frequent and early miscarriages."

"Farquharson's Therapeutics and *Materia Medica*," by FRANK WOODBURY, M. D., states that: "*Viburnum* is given for dysmenorrhœa. The fluid extract is a good preparation, and has a reputation for preventing threatened abortion."

"The National Standard Dispensatory," by H. A. HARE, M. D., says of *Viburnum*: "It has been used as a nervine, astringent, diuretic and tonic, and is said to possess a powerful influence as an uterine sedative and preventive of abortion."

Lady's Slipper root (*Cypripedium Pubescens*). "This root is valuable in all cases of *nervous excitability* or *irritability* unconnected with organic lesions, allaying the irritability, lessening any accompanying pain, producing a more calm and cheerful condition of the body and mind, and consequently favoring mental tranquility, or sleep. Hence it has been of service in *hysteria*, *chorea*, *nervous headache*, *wakefulness* and *prostration in low fevers*, *epilepsy* from reflex irritation, and, indeed, in all cases of morbid irritability of the nervous system from functional derangement or reflex irritation. It will be found very efficient in the *nervousness*, *hypochondria*, or *mental depression* accompanying certain forms of derangement of the digestive organs, which is more generally met with among females."—Prof. JOHN M. SCUDDER.

"Exercises special influence upon *nervous conditions* induced by or depending upon disorders of the female genito-urinary organs; relieves pain where restlessness and nervousness are associated with headache or neuralgia; may be used in nervousness, restlessness with constant change of position, abnormal excitability, morbid sensitiveness of the eyes, irritation of the brain in young children with threatened convulsions."—F. ELLINGWOOD, M. D.

"Useful in *hysteria*, *chorea* (St. Vitus's dance), *nervous headache*, *neuralgia* and 'fidgetyness.' Is mild, but if used in excess increases irritability and weakness which it palliated."—EDWIN M. HALE, M. D.

Black Cohosh root (*Cimicifuga Racemosa*). "This is a very active, powerful and useful remedy, and possesses an undoubted influence over the nervous system. In small doses the appetite and digestion are improved. In the painful condition incident to imper-

fect menstruation, its remedial action is fully displayed. It is an efficient agent for the restoration of suppressed menses. In dysmenorrhœa (painful periods), *it is surpassed by no other drug*, being of greatest utility in irritative and congestive conditions of the uterus and appendages, characterized by tensive, dragging pains. Reflex mammary pains during gestation are met by it, and in rheumatic subjects it promptly relieves such ovarian troubles as ovaralgia and neuralgia. Its action is slow, *but its effects are permanent*. It has been used successfully as an antispasmodic in hysteria, epilepsy when due to menstrual failings, periodical convulsions, nervous excitability and many other spasmodic affections. For headache, whether congestive or from cold, neuralgia, dysmenorrhœa, or from la grippe, it is promptly curative. As a remedy for pain, Black Cohosh is a very prompt agent, often relieving in a few hours painful conditions that have existed for a long time."—KING'S AMERICAN DISPENSATORY.

"Of unquestionable value in chorea (St. Vitus's dance). Promptly cures urticaria (hives). Recommended in rheumatism and chronic bronchitis."—HORATIO C. WOOD, M. D.

"Is an excellent stomachic tonic and expectorant. In phthisis to moderate hectic (fever), to improve appetite and to facilitate expectoration it is undeniably of service; safer than digitalis in dilated heart, fatty heart, languid circulation, oppressed breathing and general dropsy. Most favorable reports have been made of its use in disorders affecting the muscular system. The greatest success of this drug has been achieved in chorea (St. Vitus's dance). Is useful in disorders or perversions of the menstrual flow."—R. BARTHOLOW, M. D.

"Indicated in muscular aching, in hysteria with flushed face and nervous excitement. Professor KING advised it in coughs on account of its influence upon the nerve centers. As a remedy for chorea it has become widely popular. Is indicated in rheumatic neuralgia and sciatica, in dysmenorrhœa (painful menses), to relieve irregular pains and uterine distress during the course of pregnancy, in spasmodic stricture, is spermatorrhœa and orchitis."—F. ELLINGWOOD, M. D.

Unicorn root (*Helonias Dioica*). The American Dispensatory (prepared by Professors KING and SCUDDER), says: "*Helonias*, or Unicorn root, has been found very beneficial in *dyspepsia*, *loss of appetite*, and for the removal of *worms*. In diseases of the uterus (womb), it is one of our most valuable agents, acting as a uterine tonic, and gradually removing abnormal conditions, while at the same time it imparts tone and vigor. Hence, it is much used in *leucorrhœa*, *amenorrhœa*, *dysmenorrhœa* and to remove the tendency to repeated and successive *miscarriages*. A particular phase removed by it is the irritability and despondency that often attends uterine troubles. In painful menstruation it has been found especially adapted to those cases in which there is pelvic fullness, a sensation as if the womb and rectum were distended with blood, and the aching, bearing-down organs feel *as if they would fall out of the body*. Its action here is very decided. It is considered useful by some for the relief of the *vomiting of pregnancy*. *Helonias* is a decided tonic to the urinary tract."

"The most direct indication for the use of this agent is a dragging sensation in the extreme lower abdomen and inclination to pull up, to hold up or support the abdominal pelvic contents. Advised for wom-

en suffering from pelvic engorgement (fullness of lower abdomen) and uterine prolapsus (falling of womb). In addition it is a general tonic, improving the digestive and gastro-urinary apparatus."—F. ELLINGWOOD, M. D.

Dr. JOHN FYFE, Editor of the Department of Therapeutics in THE ELECTIC REVIEW, says of Unicorn root: "In the treatment of diseases peculiar to women it is seldom that a case is seen which does not present some indication for this remedial agent. Unicorn root, through its tonic and alterative influence, acts equally well in amenorrhœa (suppressed menstruation) and in menorrhagia (flooding or profuse menstruation). It is especially called for in cases of amenorrhœa which are accompanied by general debility and an atonic (weak) condition of the digestive organs, as it increases the appetite and promotes digestion and assimilation. When there is a tendency to miscarriage its tonic influence will aid much in bringing about a normal condition of the structures involved. In sterility and impotence its curative power is unmistakable, and within a reasonable time it will restore to healthful activity all cases not dependent upon organic wrongs, and in leucorrhœa and defective menstruation it is a frequently needed remedy."

"The following are among the leading indications for Helonias: Pain or aching in the back, with leucorrhœa; constant sensation of heat in the region of the kidneys; menorrhagia (flooding), due to a weakened condition of amenorrhœa, arising from or accompanying an abnormal condition of the digestive organs and an anæmic (thin blood) habit; dragging sensations in the extreme lower part of the abdomen."

Blue Cohosh root (*Caulophyllum Thalicteroides*). The AMERICAN DISPENSATORY says: "Blue Cohosh is emmenagogue (excites menstrual flow), and its use as a parturifacient originated in the custom of the Indian squaws of employing a decoction of the root for two or three weeks previous to labor to *facilitate child-birth*."

Prof. JOHN KING, M. D., says: "Blue Cohosh when used by delicate women, or those who experience prolonged and painful labors, for several weeks previous to confinement, gives tone and vigor to all the parts engaged in the accouchment, facilitating its progress, and *relieving much suffering*." Prof. HALE testifies that women who have taken *Caulophyllum* previous to confinement, have over-run their time from ten to twelve days, but *all had very easy labors* and made good recoveries. Blue Cohosh acts as an anti-abortive by relieving the irritation upon which the trouble depends. He continues, "It has been employed to relieve *irritation* dependent on congestion. It controls chronic inflammatory states of the organs and gives tone in cases of debility. In the sexual disorders of the female it is indicated by tenderness and pain in the uterus. In debilitated patients, it has been very successfully used in cases of *hysteria* to overcome the attack, and to relieve *ovarian*, or *mammary pain*, or *irritation* when accompanying that disorder. *Chronic ovaralgia*, *uterine leucorrhœa*, *amenorrhœa* (suppressed menstruation) and *dysmenorrhœa* (painful menstruation), are conditions in which it has been most successfully employed. It has an established reputation as a remedy for *rheumatism of the uterus*, with nervous excitement, for *uterine cramps* attending menstruation, and for *menorrhagia* (flooding)."

"Is specific in spasmodic dysmenorrhœa (painful menstruation), after-pains and to prevent tedious and painful labors. Is a good preventive of premature labor and relieves pains in uterine displacements."—EDWIN M. HALE, M. D.

"From the end of the sixth month to the close of pregnancy is a period when many distressing symptoms are manifested, which may, in a measure, be relieved by *Caulophyllum*. The labor is less protracted, less painful and less liable to accidents. Recommended at the commencement of the menstrual period, in chronic uterine disorders, in painful menstruation, threatened abortion, nursing sore mouth, rheumatism, whooping cough, bronchitis."—F. ELLINGWOOD, M. D.

Oregon Grape root (*Berberis Aquifolium*). KING'S AMERICAN DISPENSATORY by H. W. FELTER, M. D. and JOHN U. LLOYD, P. H. D., says: "This agent has justly been extolled as an alterative and tonic, and has been recommended in salt-rheum and other cutaneous affections, as well as in maladies supposed to be due to some mal-condition of the blood. Excretion and secretion are promoted by it; digestion and assimilation improved; the lymphatic glandular system and the ductless glands are stimulated; and the renal secretions somewhat augmented. Thus it acts as a blood-maker, and is therefore a remedy to oppose depraved conditions of the body-fluids. As a tonic, it may be employed as a synonym of *hydrastis*, *berberis*, etc., possessing in addition its own peculiar virtues, in dyspeptic conditions, chronic mucous maladies, and in certain enfeebled conditions of the system," etc.

THE UNITED STATES DISPENSATORY says of Oregon Grape root: "Strongly recommended by various clinicians as alterative, laxative, tonic, and diuretic." Very useful in scrofulous affections, in chronic skin diseases (especially of the scaly type), in the convalescence from malaria and other fevers, and in chronic uterine disease.

The active medicinal principles of the several ingredients, or native, American roots employed, are extracted from each ingredient by the use of chemically pure glycerine of proper strength and with the aid of special apparatus and appliances devised and built especially for carrying on the delicate and exact processes employed.

The foregoing are only a few brief quotations taken from amongst the voluminous endorsements which the several ingredients entering into Dr. Pierce's Favorite Prescription have received from the most eminent medical writers of *all* the different *schools* of medicine. After reading them can any reasonable person doubt that Dr. Pierce has selected and compounded his "Prescription" from the most valuable ingredients known to the medical profession for the relief of these chronic diseases of women for which he recommends it?

"Favorite Prescription" is a medicine for women, the

makers of which are not afraid to print their formula on the bottle-wrapper, thus taking their patrons into their full confidence. It is a medicine for women, every ingredient of which has the strongest possible endorsement of the most eminent medical practitioners and writers of our day, recommending it for the diseases for which "Favorite Prescription" is used. Doctor Pierce knew that alcohol and narcotics were injurious and so he has always kept them out of his medicine.

The use of "Golden Medical Discovery" with "Favorite Prescription" will be found of advantage in all the affections peculiar to women when complicated with great torpor of the liver or indigestion. The best way in such cases is to take the "Discovery" before meals and the "Prescription" half an hour, or such a matter, after meals and also just before retiring at night. The use of Dr. Pierce's Anuric Tablets also is advised when there is evidence of kidney or bladder affections.

Dr. Pierce's Pleasant Pellets should also be taken moderately if very persistent constipation be present, but only in sufficient doses (probably only one or two daily) to *regulate* the bowels without producing their cathartic action. They act most favorably upon the liver. Their most important ingredients are May-apple (Podophyllin), Jalap, Aloin and Extracts of Nux Vomica and Stramonium in minute quantities, hence their anti-bilious properties.

CHAPTER III

BATHS AND MOTION AS REMEDIAL AGENTS

The remedial effects of bathing are generally under-rated. This want of appreciation is more often due to the improper manner in which it is performed than to an insufficiency of curative virtues. The term *bathing* not only implies a cleaning of the body or certain portions of it, but also the application of water in such a manner as to influence the nervous system, and regulate the functions of the secretory organs. Cleanliness, while it preserves health and promotes recovery, has reference only to the hygienic influences of water and not to its curative effects. There are several kinds of baths, the names of which indicate their character, manner of application, or the part of the body to which they are applied. Among others, we have Cold, Cool, Temperate, Tepid, Warm, Hot, Hot Air, Russian, Turkish, Vapor, Electric, Sea, Shower, Sponge, Douche, Sitz, Medicated, Alkaline, Acid, Iodine, and Sulphur Baths. Temperature influences the properties of any bath; thus the sponge, sitz, and alkaline baths may be employed warm or cold, according to the effect desired.

The Cold Bath, used at a temperature of from 40° to 60° Fahr., is powerfully sedative, and is employed for its tonic effects. If the vital powers are low, or the individual remains in it too long (two or three minutes should be the limit), the reaction is slow and its effects injurious. While it is highly invigorating to robust persons, those who have a low standard of vitality should be cautious in its employment. A local bath

may be followed by beneficial results, when a general bath would be inadmissible. For these reasons we advise the general use of the

Cool Bath, at a temperature of from 60° to 70° Fahr. If, in any instance, the *reaction* is *slow*, we recommend the

Temperate Bath, at a temperature of from 75° to 80° Fahr. The time of remaining in the bath should be regulated by the strength of the invalid. As a rule, it should not exceed three *minutes*, and the colder the water the less time should the patient be immersed. Immediately after emerging from the bath, the body should be thoroughly dried and rubbed with a moderately coarse towel until a glow is experienced and reaction is fully established. The attempt to toughen children by exposing them to low temperatures of either air or water, cannot be too emphatically condemned. This caution, however, does not apply to the employment of moderately cool water for ablutions. The cold or cool bath should be taken in the early part of the day, but *never during digestion*. Whenever reaction does not follow bathing, artificial means must be resorted to, as stimulating drinks, dry warmth, or exercise.

The Tepid Bath, the temperature of which is from 85° to 92° Fahr., is generally used for cleansing the body. It is prescribed in fevers and inflammatory affections for its cooling effects. It is usually medicated with some acid or alkali. The latter unites with the oily secretion of the skin and forms a soapy compound easily removed by the water. The temperature should be regulated according to the vitality of the patient, and the bath may be repeated two or three times a day. It removes superfluous heat, and keeps the skin in a condition favorable for excretion.

The Warm Bath, at a temperature varying from 92° to 98° Fahr., is always agreeable and refreshing. It equalizes the circulation and softens the skin, by removing all impurities. It moderates pain and soothes the whole system. It does not weaken or debilitate the person, but is in every way beneficial. It is an efficient, remedial agent in many chronic diseases, convulsions, spasmodic affections of the bowels, rupture, rheumatism, and derangement of the urino-genital organs. It should be employed immediately before going to bed unless

urgent symptoms demand it at other times. It may be medicated or not, as circumstances require, but should always be taken in a warm room.

The Hot Bath at a temperature of from 98° to 110° Fahr. is a powerful stimulant. It excites the nerves, and through them the entire system. It causes a sense of heat and a constriction of the secretory organs; but perspiration, languor, and torpor soon follow. In the sudden retrocession of cutaneous diseases, it restores the eruptions to the surface and gives speedy relief. The hot bath may be applied locally when circumstances require.

The Russian Bath consists in the application of hot vapor, at a temperature varying from 112° to 200° Fahr. The patient is first subjected to a moderately warm temperature, which is gradually increased as he becomes inured to it, the head being surrounded with cloths wet in cold water. Upon emerging from it, the bather is plunged into cold water or receives a cool, shower bath. In rheumatic and cutaneous diseases, chronic inflammations, and nervous affections, the Russian bath is an effective remedy.

The Turkish Bath is a dry, hot-air bath. The bather passes from one apartment to another, each one being of a higher temperature than the preceding. He undergoes a thorough shampooing, and, although the person may be scrupulously clean, he will be astonished at the amount of effete matter removed by this process. The bather then returns through the various apartments, and, upon emerging from that of the lowest temperature, he experiences a delightful sensation of vigor and elasticity.

As a hygienic agent, the hot-air bath has been constantly growing in favor. Its value is now recognized by all physicians throughout the world. The judicious use of the Turkish bath serves to secure perfect equalization of the circulation. Glandular activity is increased, elasticity and power given to the muscles, and a permanent, stimulating and tonic influence imparted to the system, a condition at once conducive to the enjoyment and prolongation of life. Dr. Erasmus Wilson, of England, says, in a paper read before the London Medical Association: "The inhabitant of a large city would live as

healthy, immured within city walls, as amid the fields and meadows of the country. His bath would be to him in the place of a country house or horse—it would give him air, exercise, freshness, health, and life.”

“The bath that cleanses the inward as well as the outward man; that is applicable to every age; that is adapted to make health healthier, and alleviate disease, whatever its stage or severity, deserves to be adopted as a national institution, and merits the advocacy of all medical men; of those whose especial duty it is to teach how health may be preserved, and how disease may be averted.”

The hot, *dry* atmosphere of the Turkish bath promotes rapid evaporation from the surface of the body, and it is well known that rapid evaporation from the surface is a cooling process. A person's finger may be frozen in one minute's time, by throwing upon it a constant, fine spray of rhigolene or sulphuric ether. The rapid evaporation of the light fluid congeals the liquids of the tissues and a film of ice is rapidly formed upon the part. In a less intense degree the same cooling process is carried on over the whole surface of a person, when in the hot room, or *sudatorium*, of the Turkish bath. The evaporation from the surface is so rapid that one can hardly appreciate the profuseness of the perspiration going on. The evaporation from the surface so rapidly carries off the heat from the body that one finds himself able, with little or no inconvenience, to remain in a room heated to from 180° to 200° or even 220° Fahr.

As a hygienic measure to be regularly or occasionally employed by persons in fair health, the Turkish or hot dry-air bath is far superior to the Russian or vapor-bath. (1.) It produces more profuse perspiration, and is therefore more depurating, or cleansing, in its effects. (2.) It does not relax the system, but rather produces a tonic effect, and fewer precautions are, therefore, necessary to guard against taking cold after employing it. (3.) The Turkish bath can be better ventilated than the Russian. While the air is heated to a high temperature, it can be readily kept pure by constant changes. In the Turkish hot-rooms, or *sudatorium*, of the Invalids' Hotel and Surgical Institute, provision is made for bringing underneath the floors a current of fresh air from without. This column of fresh air is carried under the centre of each room where it

escapes from the conductor, is warmed, and rises into the room, from which extraction of air is constantly going on through registers opening into tubes, communicating with large ventilated shafts which are kept hot, summer and winter, to insure a draught through them. In this manner, thorough ventilation of our Turkish hot-rooms is insured.

The Turkish bath not only combines a most agreeable luxury with a decidedly invigorating and tonic influence, but also, by its stimulating power, induces proper glandular and cellular activity, producing a healthy condition.

Sallowness, tan, and freckles, the result of local or general increase of the pigment granules of the skin, soon disappear under the stimulating influence and regular use of the Turkish bath, which causes rapid development of new and transparent cells. The colored granules are thus gradually replaced and the skin assumes a beautiful clearness and purity of appearance, which transcends immeasurably the unhealthy hue that follows the frequent employment of the various cosmetics.

The value of an agent which thus improves the general health, insures immunity from coughs, colds, and other diseases, and at the same time produces a healthy and permanent beauty of complexion, is at once apparent. The purity of person, perfect circulation, increase of healthy nutrition and glandular activity produced by the Turkish bath, serve to make it of the most lasting utility.

The eminent Dr. Madden has said, and his experience is confirmed by every regular patron of the bath, that, "Wherever the Turkish bath was a national institution the hair of the women was peculiarly luxurious and beautiful. I can vouch for it that the use of the bath rendered the complexion more delicate and brilliant; that the eyes became clearer and brighter; all the personal charms were enhanced. I can recommend no hygienic measure more beneficial or effectual in preserving the health and an attractive personal appearance."

Pimples, blotches, eruptions, and other disfigurations of the skin are removed by the frequent use of the Turkish bath, leaving the integument smooth and soft.

How the Turkish Bath is Administered at the Invalids' Hotel and Surgical Institute.

The hot-rooms, of which there are two, are exactly similar in every respect except as regards temperature. The first room has a temperature of from 110° to 120° Fahr. The bather is supplied by the attendant every few minutes with copious draughts of cool water. Gradually the relaxing influence of the elevated temperature manifests



First Hot-room of the Turkish Bath.

itself. The capillaries slowly dilate, the veins enlarge under its gentle stimulus, and small points of perspiration appear upon the surface, which assumes a slight, rosy blush. A delightful calm, a feeling of perfect rest and luxurious ease is imparted to the senses. From this room, after an appropriate interval, the bather enters the second room, in which the atmosphere is higher by from 20° to 30°, and it may be made still higher, its regulation requiring but an instant.



One of the Shampooing-rooms.

A thorough sweating occurs while the subject remains in these rooms, during a period of from ten to forty minutes. The secretions of the skin, at first impure and loaded with the *débris* of dead cells and extraneous matter, gradually become purer, and clearer, until, finally, all trace of color disappears and the pearly drops of sweat come full and free. Soon the attendant appears and leads the

way to the shampooing-room, where, lying upon a warm marble slab, *massage* is applied most thoroughly to every portion of the body.

By the *massage*, shampooing, or rubbing, the superficial veins are thoroughly emptied of their contents, the muscles are given elasticity and tone, and glandular activity is promoted. Innumerable dead epithelial cells, together with other impurities, are rolled off in flakes under the skillful manipulation of the attendant.

After a thorough shampooing, the shower bath is applied, to secure a contraction of the capillaries and a diminution of the perspiration.

The Spirit Vapor-bath is very effective when employed in the earlier stages of acute, febrile, inflammatory, and painful diseases. In many forms of chronic diseases the administration of a spirit vapor-bath once in from three to fifteen days, is a valuable adjunct to the treatment of these affections. It exerts an exceedingly beneficial influence upon the entire system, and, when habitually employed, may ward off disease.

The body should be moistened with an alkaline solution before the administration of a spirit vapor-bath. After the perspiration which it occasions has subsided, which will usually be in from three to four hours, sponge the body with a mixture of the following ingredients: water, three gills; alcohol, one gill; salt, one teaspoonful. By this method the patient experiences none of the unpleasant effects which generally follow the employment of diaphoretics. Various kinds of apparatus have been devised to facilitate the application of the spirit vapor-baths. Most of them are cumbersome and expensive, and, consequently, are seldom used except in hospitals or sanitariums.

The following method described by Dr. J. King, may be advantageously employed:

"The patient is undressed, ready for getting into bed, having removed the clothing worn through the day and put on a night shirt or other clothing to be worn while sweating, and during the night, if the bath is taken at bed-time. He is then seated on a high Windsor or wooden-bottomed chair, or instead thereof, a bench or board may be placed on a common open bottomed chair, care being taken that the bottom is so covered

that the flame will not burn him. After seating himself, a large coverlet or blanket is thrown around him from behind, covering the back of his head and body, as well as the chair, and another must be passed around him in front, which last is to be pinned at the neck, loosely, so that he can raise it and cover his face, or remove it down from the face from time to time as occasion demands during the operation of the bath. The blankets must reach down to the floor, and cover each other at the side, so as to retain the vapor. This having been done, a saucer or tin vessel, into which is put one or two tablespoonfuls of whisky, brandy, alcohol, or any liquor that will burn, is then placed upon the floor, directly under the centre of the bottom of the chair, raising a part of the blanket from behind to place it there; then light a piece of paper, apply the flame to the liquor, and as soon as it kindles let down the part of the blanket which has been raised, and allow the liquor to burn until it is consumed, watching it from time to time to see that the blankets are not burned. As soon as consumed, put more liquor into the saucer, about as much as before, and again set it on fire, being careful to put no liquor into the saucer while the flame exists, as there would be danger of setting fire to the blanket, and producing injury to the patient. Continue this until the patient perspires freely, which, in a majority of cases, will be in five or ten minutes."

"If, during the operation, the patient feels faint or thirsty, cold water must be sprinkled or dashed in his face, or he may drink one or two swallows of it,—and in some cases the head may be bathed with cold water. As soon as free perspiration is produced, wrap the blankets around him, place him in bed, and cover him up warm, giving him about a pint of either some good store tea, ginger, or some diaphoretic herb-tea to drink, as warm as he can take it. After two or three hours, remove the covering, piece by piece, at intervals of twenty or twenty-five minutes each, that he may gradually cease perspiring."

The above method may be improved by using an ordinary hoop skirt, ten to twelve inches below the bottom of which is suspended a larger and stronger hoop. The upper and smaller hoops should rest upon the patient's shoulders. A woolen blanket, large enough to reach and rest upon the floor, and

envelop the whole person, is thrown over the hoops. Unless the bath is employed to diminish the quantity of fluids in the body (as in dropsy), the patient may drink some simple, diaphoretic infusion, to hasten or facilitate perspiration. When he perspires freely, small quantities of cold water may be frequently given. "There is little or no danger of taking cold after this process, if ordinary precaution is observed, and it is easy, agreeable, safe, and effectual."

Occasionally we will meet with patients, upon whom it is almost impossible to produce the slightest moisture, much less perspiration. The skin of such persons is generally dry and harsh, communicating an unpleasant sensation to the touch. In most instances the skin may be restored to its normal condition, by adopting the following course: 1st. Anoint the whole surface of the body and limbs with olive oil every night upon retiring to bed. 2nd. Every morning wash the whole surface with a warm, weak, alkaline solution, employing considerable friction while drying. 3rd. Every two weeks administer a spirit vapor-bath. A perseverance in this course for a few months will accomplish the desired result."

Frequent reference to spirit vapor-baths will be made by the author of this work, in speaking of those diseases in which its employment will prove beneficial.

Sea Bathing is an excellent, remedial agent in chronic disorders, particularly in those of an atonic character, such as nervous prostration, dyspepsia, and general debility.

Much of the benefit attributed to this mode of bathing is undoubtedly due to other influences, such as pure air, exercise, change of scenery, diet, and associations which surround the patient during his sojourn at the sea-shore.

At first, the duration of a sea-bath should not exceed three or five minutes, but it may be gradually prolonged to fifteen or twenty minutes. If the patient is very feeble, one or two baths a week are sufficient, and the most robust person should never take more than one a day. They should always be taken in the earlier portion of the day, before breakfast if possible, and *never during digestion*.

Before entering this bath, a moderate degree of exercise should always be taken, enough to arouse the vital energies, but

not to produce fatigue. Suitably dressed, the patient plunges into the water, in which he remains during the prescribed time. Immediately after emerging from the bath, the patient should be thoroughly dried and dressed and then moderate exercise should be taken to induce reaction. If the reaction is slow, a mild stimulant may be taken and the duration of the bath must be diminished the next time. When sea-bathing is beneficial improvement is soon manifested. The blood becomes richer, the whole system is strengthened and the functions are performed with more regularity. To the rich, sea-bathing is a luxury, but it is a remedy beyond the reach of the poorer classes unless they live near the sea-shore.

The Shower Bath produces a shock to the nervous system by suddenly coming in contact with the skin. Numerous streams of cold water fall upon the neck, shoulders, and body of the patient who stands beneath the hose or reservoir. When the patient is plethoric, feeble, or nervous, or when some internal organ is diseased, the cold, shower bath should *not* be employed. In simple debility unaccompanied by inflammation or symptoms of internal congestion, its use proves advantageous. By moderating the force of the shower, and substituting tepid water, the most delicate persons can endure it and profit thereby. The usual means for inducing a good reaction, friction, and exercise, should be employed.

The Douche Bath consists of a stream of water, dashed or thrown upon the patient from a moderate height or distance, with considerable force. The size, temperature, and force of the stream may be modified to suit the exigencies of the case. It is locally employed as a remedy for sprains, weak or stiff joints, old swellings, etc. The cold, douche bath is more powerful than the shower bath and should be given with the same precautions which govern the application of the latter.

The Sponge Bath admits of extensive employment in both acute and chronic diseases, and its simplicity renders it of untold value. It consists in a general or local application of water (medicated or not) at any desired temperature. The quantity may be great or small to suit the requirements of the case. If it is applied in acute diseases at a temperature agreeable to the patient, it is exceedingly grateful and may be repeated as often as necessary. It may be rendered alkaline by

the addition of some compound of soda, in the proportion of a teaspoonful to a quart of water. A portion of the body may be bathed at a time, and quickly dried, thus avoiding any exposure to cold. It removes excessive animal heat, relaxes the capillaries, equalizes the circulation, and produces comfort, tranquility, and sleep.

Nothing is more conducive to the health and comfort of laboring men in summer than a daily bath, and it is a matter of regret that there are so few conveniences for the purpose in most homes, especially those in the country. Farmers in particular need bathing facilities, and yet in most cases they are almost entirely without them. For their benefit we will describe a device which we can recommend to all who want a cheap, convenient, and easily managed apparatus for sponge bathing in the bed-room.

The articles required are a piece of rubber-cloth a yard and a quarter square, four slats, two inches wide and three feet long, notched at the ends so as to lock together in the form of a square, and a large sponge. The slats are placed upon the floor and the rubber cloth is spread over them (there is no need of fastening it to the slats), forming a shallow square vessel a yard wide. In this the bather stands and applies the water with a sponge from a basin or bowl on a stand placed conveniently near. There need be no danger of wetting the carpet, or spoiling the furniture.

When the bath is finished, gather three corners of the rubber cloth in the left hand, take the fourth corner in the right in such a way as to form a spout when lifted or held over the slop-jar or bucket. The water may be poured out in a moment, when the cloth should be spread over the back of a chair to dry, and the slats unlocked and set away in a closet.

The Foot Bath is frequently employed, as a means of causing diaphoresis, in colds, attacks of acute diseases, and also to draw the blood from the head or some internal organ. It is a powerful auxiliary in the treatment of those chronic diseases in which inflammation, congestion, and a feeble circulation are prominent symptoms. The water should be as hot as it can be borne, and the temperature kept up by additions of hot water. It may be made stimulating by the addition of salt, mustard, ginger, or cayenne pepper.

The Sitz Bath. A tub is so arranged that the patient can sit down in it while bathing. In this manner the lower part of the abdomen, hips, and upper part of the thighs, are immersed in whatever fluid the bath is composed of. It is applicable in diseases of the pelvic organs, and may be hot, warm, cool, cold, or medicated, according to the effect desired.

The bath tub should be large enough to permit a thorough rubbing and kneading of the diseased parts, and the patient may remain in it from ten to thirty minutes. The clothing may be wholly or partially removed, as agreeable to the individual. A *warm*, sitz bath is an effective, remedial adjunct in menstrual suppression and in painful menstruation, gravel, spasmodic and acute inflammatory affections generally. The *cold*, sitz bath is used as a tonic in cases of relaxed tissues of the pelvis, in debility of the urino-genital organs, in piles, prolapsus of the rectum, and in constipation.

The Head Bath. A shallow basin contains the fluid for the bath; and the patient, assuming a recumbent position, immerses a portion of the head, generally the back part. The temperature may be warm, cool, or cold, as desired.

Medicated Baths are infusions of vegetable or other substances in water. They are sometimes applied with the sponge, though generally the patient is immersed. The temperature at which they are usually employed is that of the tepid bath. The nature and strength of the medication depend upon the character of the disease for which it is employed.

The Alkaline Bath is prepared by dissolving half a pound of carbonate of soda in sixty gallons of water. It is useful in those diseases in which the fluids of the body are abnormally acid, as in rheumatism.

The Acid Bath is prepared by adding two pounds of muriatic or hydrochloric acid to sixty gallons of water. A much smaller quantity of the acid is sometimes used, and in some instances vinegar is substituted.

Scott's Acid Bath is composed of nitro-muriatic acid (aqua regia) and water. It should be prepared in a wooden tub, and a sufficient quantity of acid used to give the water a sour taste. It is extensively used in India as a remedy for disorders of the liver.

The Iodine Bath is composed of the following ingredients: tincture of iodine, two drachms; iodide of potassium,

four drachms; water, forty gallons. It should be prepared in a wooden tub. It reddens the skin. For children, a much weaker solution must be employed. Its use is generally restricted to scrofulous and tubercular affections.

The Sulphur Bath is prepared by dissolving eight ounces of sulphuret of potassium and two ounces of dilute sulphuric acid in sixty gallons of water. The acid may be omitted.

A Sulphur Vapor-bath is often employed in cities where the necessary apparatus can be procured. It may be improvised by placing sulphur on a shovel over hot coals. The patient should be prepared as in the spirit vapor-bath, and burning sulphur substituted for the liquor. The patient is then enveloped in the fumes of sulphurous oxide. Heating a mixture of sulphur and sulphuric acid, produces the same result. If the gas is inhaled in large quantities it causes irritation of the respiratory passages, and suffocation. It is therefore necessary that the coverings should be securely fastened at the neck, and that the room be one which can be quickly filled with pure air. This bath is used in cutaneous, rheumatic, and syphilitic disorders.

Fomentations consist of the general or local application of woolen cloths wrung out of hot water. They should not be so light as to be ineffectual, nor so heavy as to be burdensome. They should not be wet enough to drip, nor applied so as to expose the body to the surrounding air. A fresh cloth should be ready for application before the first one is removed, and the change quickly effected. Fomentations are effectual in relieving congestion and inflammation.

The Wet Sheet Pack. As this remedial appliance will be frequently recommended in the pages following, its mode of application is here described. Take a pail half filled with cold water, gather together one end of a common cotton sheet, and immerse it, allowing it to remain while preparing the bed, which may be done as follows: remove all the bed-clothes except a coverlet and the pillows, then spread upon it, in the following order, two ordinary comforters, one woolen blanket, one woolen sheet, (or two woolen sheets if a woolen blanket is not at hand); then wring out one-half or two-thirds of the water from the wet sheet, spread it smoothly upon the blanket, and the patient being undressed, places himself on the sheet, with his arms extended, while an assistant wraps him

closely and tightly with it, as quickly as possible. Each arm may be thus covered by the wet sheet, or may lie outside of it, and be covered by wet towels, prepared in the same manner as the sheet. Then quickly and tightly cover with the blankets and comforters, tucking snugly from head to foot. The head should also be covered with a wet towel, and a bottle of warm water placed to the feet, or near enough to keep them warm.

After the first shock of the chill is over, the pack is very pleasant and refreshing, and the patient should go to sleep, if possible. The ordinary time for a patient to remain in a pack is about sixty minutes. Thirty or forty minutes is sufficient, if he is in a feeble condition. Never wring the sheet out of warm water, for one of its principal benefits comes from the vigorous reaction induced by its cold temperature. After remaining in the pack from thirty to sixty minutes, allow the patient to stand on his feet, if he is able, and have the whole surface of his body bathed. Rub briskly, and dry with towels, or by throwing over the body a dry sheet and then rubbing him. The dry sheet retains the bodily warmth and is more comfortable, but interferes with the completeness and vigor of the rubbing of the body. Be sure and establish full reaction, which may be known by the warmth of the surface. Frequently, when the patient is released from the pack, and is being bathed, rolls of scales, scurf, and *skin-debris* come off, thus giving palpable evidence of the utility of the pack in freeing the myriads of pores of the skin of effete matter. It is efficient in fevers, and for breaking up colds, and is a very valuable, remedial agent in most chronic diseases, assisting in removing causes which depress the bodily functions.

MOTION AS A REMEDIAL AGENT.

The stability of the planetary system depends upon the concerted motion of its parts. So in the human system, motion is a fundamental principle which underlies every vital process. Health consists in normal, functional activity. The human system is the arena of various kinds of motions, both of fluids and of solids, and life and health depend upon these physiological movements. There are the movements incident to *respiration*, the expansion and contraction of the walls of the chest, bringing the oxygen of the air into contact with the

blood as it circulates through the lungs. Corresponding with the movements of the chest are the *motions of the abdominal walls*, which promote the functions of the organs of the abdominal cavity.

There are *motions of the heart and arteries*, which urge the blood out to the extremities and diffuse it through every part of the system, and also *motion of the blood in the capillaries*, by which the blood is circulated through the tissues, that the latter may be built up from its nutritive constituents. Then there is the *motion of the vital current* in the veins returning towards the heart, and urged forward by the muscular and pump-like action of the chest and abdominal walls. The peristaltic *motions of the stomach and bowels* urge onward digesting materials, exposing them successively to different solvents and aiding the absorption of nutritive matter. No less essential to life and health are numerous other minute operations or *motions*, on which vital power in all its manifestations of muscular and nervous energy depends. Many other *motions* are consequent upon decay, growth, and repair. Oxygen, carbonic acid, watery vapors, and other gaseous matter are constantly being exchanged between the system and atmosphere. Then, the human system being a complex, chemical laboratory, there are *motions consequent upon chemical action*, constantly going on within it.

Muscular motion, under the direction of the will, is also absolutely necessary for the maintenance of good health.

Animal heat and muscular and nervous power are dependent upon motions of the minutest particles composing the body. The body is composed of fluid and semi-fluid matter, permitting great freedom of motion. Health requires that there shall be *a constant change of place*, an active transmission of material to and from vital organs and parts, through the medium of blood-vessels, as well as outside such vessels; that is, motion of interstitial fluids.

Nature's Mode of Sustaining Health. The act of transforming latent, non-vital force which exists pent-up in food, as heat is in coal, into vital energy, requires the simultaneous elimination from the system of a like amount of worn-out matter. Assimilation of nutritive materials is impossible, unless a like amount of matter be eliminated from the

system. Muscular and nervous energy are dependent upon activities which cause waste. Not only is this true in a general way, but it is also true that the energy produced by the operations of the vital system has a strict relation to the wasting products—that *full* energy is only attained by *perfected* waste. Use, waste, and power, then, sustain definite and dependent or corresponding relations, since waste is as essential to health as is supply.

Without waste, disturbance is at once produced in the system similar to that resulting from the introduction of foreign matter. These disturbances constitute disease. The more obvious effects of lack of waste and elimination are mechanical. The circulation is loaded with effete and useless matter, the vessels being thereby weakened and distended, and the circulation retarded. The capillaries become clogged and vital action is diminished. Local congestions, inflammations, effusions, morbid growths, and other pathological results follow.

Deranged or suppressed action characterizes, and, indeed, constitutes all departures from health which we call disease. Suffering indicates action, but action which is perverted into wrong channels, or action in one part at the expense of motion in other parts, constituting a disturbance in the equilibrium of forces, from which the system suffers.

Value of Mechanical Movements and Manipulations for the Treatment of Chronic Diseases. To correct and restore deranged movements, thereby producing normal, functional activity of every organ and part of the system, must therefore be the chief object of the physician. All remedies, of whatever school or nature, imply motion, and depend for their efficacy upon their ability to excite motion in some one or more elements, organs, or parts of the system.

While we do not wish to detract from the real merits of medicine as a curative agent, yet we must admit that the remedial power of motion, transmitted either manually or mechanically, is founded upon rational and physiological principles. All systems of medicine, however much they may differ superficially, propose, as the chief end to be attained by the administration of medicine, or by other treatment, that *motions* identical with physiological activity should be incited or promoted. How best

to accomplish this result, and with least cost to vitality, is an important consideration. Bearing in mind the conservation of forces, that energy or power is as indestructible as matter, that it may be changed into other forms but never lost, it is plain that mechanical force may be applied to the living system and transformed into vital energy; that chemical action, animal heat, and magnetism may represent in the system the mechanical force transmitted to the body. Keeping in view the transformable nature of force, and the need that our systems have of auxiliary power in different departments, when normal activity is impaired by disease, we can readily understand how undoubted, curative effects result from either the manual or the mechanical administration of motion.

Rubbing is a process universally employed by physicians of every school for the relief of a great diversity of distressing symptoms, is instinctively restored to by sympathizers and attendants upon the sick, and constitutes one of the chief duties of the nurse. Uncivilized people resort to this process as their principal remedy in all forms of disease.

The difficulty in administering motion as a remedial agent by manual effort, such as rubbing, kneading, oscillating, flexing, and extending the limbs, lies in the impossibility of supplying the *amount, intensity, and variety* of movement required to make it most effective. The power of the arm and the strength of the operator are exhausted before the desired effect is produced. Inventive genius has at last overcome the obstacles to the successful and perfect administration of motion as a curative agent. We have now a series of machines propelled by mechanical power, by the use of which we rub, knead, manipulate, and apply in succession a great variety of movements to all parts of the body. These machines transmit motion to the body from inexhaustible sources, never tire, but are ever ready for new, remedial conquests. The movements administered by their use, *while entirely under the control of the patient*, are never disagreeable, and are far more rapid and intense than can possibly be given by the hands. By the application of short, quick movements of from *twelve to fifteen hundred vibrations a minute*, deep-seated organs and parts are reached, to which motion is transmitted and in which vital energy is thereby generated. The hands have not the power,

by kneading, manipulating, or rubbing to impress the system except in a very mild degree, and deep-seated organs and parts are scarcely influenced by the comparatively slow movements thus administered. Among the most important, mechanical inventions devised for administering motion as a remedial agent, is one which has received the name of the *manipulator*.

The Manipulator. With this machine motion can be applied to any organ or part of the system, and intensity of the application regulated to a nicety. The rapidity of motion necessary to produce active exhilaration of any part of the body is easily secured by the use of the manipulator, but is far beyond the power of the hands. The degree of circulation given to the fluids, both inside and outside of the vessels, and of energy imparted to the organs and parts operated upon by the manipulator, is also unapproachable by the application of manual power.

Effects Upon the Circulation and Nutrition. The influence of motion on these functions is as follows: The contents of the blood-vessels are moved onward by the pressure and motion transmitted by the manipulator, all backward movement of the blood being prevented by the valves of the veins and by the propelling power of the heart and arteries. Fluids outside these vessels pass through their walls, to take the place of the stagnant blood that has been moved onward. Other blood flows into the part, and thus active and healthy circulation is induced, and nutritive material, capable of affording vital support is also brought to refresh the local part.

We have found mechanical movements especially effectual in paralysis, neuralgia, sleeplessness, and other nervous affections; in derangements of the liver, constipation, and dyspepsia, in displacements of the uterus, and congestion, and inflammation of the pelvic organs.

For a complete description of the mechanical movements and the machinery employed in the treatment of diseases at the Invalids' Hotel and Surgical Institute, the reader is referred to the appendix to this work.

CHAPTER IV

NURSING AND HYGIENIC TREATMENT OF THE SICK.

There are two essentials requisite to the successful treatment of the sick: (1.) Medical skill; (2.) Good nursing. The former is necessary in order that the condition of the patient be fully understood, and the proper means be employed to effect his recovery. The latter is essential, in order that all influences favoring the production and development of disease may be removed, the tendencies to restoration be promoted by every possible means, and the directions of the physician be properly observed.

Success in the treatment of the sick requires good nursing. Without it, the most skillful physicians fail to effect a cure; with it, the most unqualified may succeed. If certain hygienic agencies are essential to the maintenance of health, how much more necessary it is that they be employed in sickness! If certain conditions cause disease, how great the necessity is that such conditions be obviated and hygienic ones substituted!

Notwithstanding the importance of good nursing, in the rural districts it is frequently difficult to find a professional nurse, or, if one can be obtained, it is often impossible for the invalid to procure such services, on account of the expense which must necessarily be incurred. Hence, this office usually devolves upon some relative who is considered to be the best qualified for the position; or, as is often the case, necessity demands that the patient be left to a change of nurses. A woman is generally selected for this important position. Her

soft hand and soothing voice, her kindly, sympathetic, and provident nature, together with her scrupulous cleanliness, render her man's equal, if not his superior, in the capacity of nurse. There are circumstances, however, in which the services of a man are indispensable; hence the necessity that all should be qualified to care for the sick.

A nurse should be attentive to the requirements of physician and patient, for she sustains an intimate relation to both. She should observe the directions of the physician, and faithfully perform them.* She should note all the symptoms of the patient, and do everything in her power to promote comfort and recovery. She should anticipate the wishes, and not cause the patient to ask for everything which is desired. So far as practicable, let the wishes be gratified. The senses of the sick often become morbidly acute, and those things which in health would pass unnoticed, in sickness are so magnified as to occasion annoyance and vexation. Sick persons are not all alike, and the peculiarities of each must be studied separately. The nurse must be *kind*, but *firm*, and not yield to such whims of the patient as may be detrimental to recovery; neither must she arouse dislike or anger by opposition, but endeavor to *win* the patient from all delusions. The feelings of the patient should never be trifled with, for idealities become realities.

The nurse should possess an inexhaustible store of patience. Disease affects the mind of the patient and fills it with strange delusions. The sick are often querulous, fretful, and unreasonable, and should be treated with kindness, forbearance, and sympathy. The nurse should always be cheerful, look on the bright side of every circumstance, animate them with encouragement, and inspire them with hope. Hope is one of the best of tonics. It stimulates the flagging, vital energies, and imparts new life to the weak and exhausted forces. Gloom, sadness, and despondency depress the vital forces and lead to death. We have seen patients rapidly sinking, who had given up all hope, and were quietly awaiting the coming of death, snatched, as it were, from its grasp, and restored to health, by words of cheer and encouragement.

The nurse should possess *moral principles*, which alone

can win the confidence of the patient. She should have judgment, circumspection, intelligence, forethought, alacrity, carefulness, and neatness. In a word she should exercise *common sense*.

We deem it but justice to say a word in behalf of the nurse. She, too, is a human being, subject to disease, and, unless hygienic conditions be observed, will soon be stricken low by its presence. She must be relieved occasionally and get rest, or she cannot long withstand the combined influence of fatigue and disease. Her office is an arduous one at best, and the long, weary hours of night-watching should be compensated by exercise in the open air, as well as by sleep during the day. Unless this be done, the system will become exhausted, and sleep will intrude itself upon her at the time when the greatest diligence is required for the welfare of the patient, when the vital powers are at their lowest ebb. She should be supplied with plenty of suitable food during the night, to sustain her and to serve as a safeguard against the invasion of disease. She should be treated with kindness and respect, else her disposition may become morose and reflect itself upon the patient, causing peevishness and despondency.

The Sick-room should be as comfortable, cheerful, and pleasant, as circumstances will allow. Let the room be large and airy, and have proper facilities for heating. All articles of clothing and furniture, not necessary to the comfort of the patient, should be removed from the room, and in *malignant* and *contagious* diseases the carpets, even, should not be permitted to remain. The surroundings beget happiness or gloom, in proportion as they are pleasant or disagreeable. A tidy attendant, a few flowers and books, wonderfully enhance the cheerfulness of the room. Permit no unnecessary accumulation of bottles, or any thing that can in any way render the room unpleasant. Medicines, drink, or nourishment should never be left uncovered in the sick-room, since they quickly absorb the gaseous emanations from the patient, and become unfit for the purpose which they were intended to serve. Their presence gives the room an untidy appearance, suggestive of filth and slovenliness, and imparts to the patient a feeling of loathing and disgust for articles of diet.

The Bed should not be of feathers, on account of their undue warmth, which causes a sensation of languor throughout the system. A husk or sea-grass mattress, or even a straw bed, covered with a cotton quilt, is far preferable. The bedding should be changed frequently. It is better that the bed should be away from the wall, so as to admit of greater freedom of movement about it.

Pure Air. The air in the sick-room should be kept as pure as possible. That which is so necessary in health, is indispensable in sickness. The importance, therefore, of a perfect and free ventilation of the sick-room cannot be too thoroughly impressed; and yet to properly secure this end, may call forth a considerable amount of ingenuity on the part of the nurse. A window should be open, but the current of air must not be allowed to blow directly upon the patient. One window may be raised from the bottom and another lowered from the top. This will permit the entrance of pure air from without, and the exit of the vitiated air from within. The patient, if sufficiently covered in bed, is not liable to take cold from a proper ventilation of the room. Especially is this true, when the bodily temperature is raised by febrile or inflammatory affections. The *temperature* of a room is no indication of the *purity* of the air. It is a prevalent, but mistaken notion, that when a room is cold, the air must be pure. Cold air is as readily contaminated with impurities as warm air, therefore, it is not sufficient that the room be kept cool, but the air should be frequently changed. During convalescence, great care is necessary to protect the patient from taking cold. Air which is admitted into the sick-room should not be contaminated by passing over foul drains, privies, or other sources of infection, since, instead of invigorating, it depresses the physical forces and generates disease.

Light is as necessary to health as is pure air. Banish either for any continuous period of time, and serious results follow. The strong, robust man, when deprived of light, soon degenerates into a feeble, sickly being, and finally dies.

According to the investigations of the Massachusetts Medical Society, it was found that absence of sunlight, together with moisture, not only favor the development of tubercular consumption, but act as an exciting cause. It is well known

that persons living in shaded dwellings often suffer from forms of disease which resist all treatment until proper admission of light is secured.

The physician to the Emperor of Russia found upon examination that patients confined in well lighted wards, were four times as liable to recover as were those in poorly lighted rooms. Children reared away from the sunlight are apt to be deformed and idiotic, while those partially deformed have been restored by being admitted to the light.

Patients sometimes wish to have their rooms darkened, because the light is painful to their weak and sensitive eyes. It is far better to shade the eyes and admit the sunlight into the room, since its rays cause chemical changes to take place, which favor the return of health. Many invalids can ascribe their recovery to the influence of a sun bath. There are, however, conditions in which the patients should be screened from the light. In such cases a little arrangement of the curtains or shutters will accomplish all that is to be desired.

Patients convalescing from acute, or suffering from chronic diseases, should receive the influence of light in the open air, and be in it several hours every day. Light and pure air stimulate a healthful development, induce cheerfulness, hope, and recovery, while darkness begets gloom, sadness, despondency, disease, and ultimately death.

Warmth is essential to the well-being of the patient, and it is necessary that a proper temperature be maintained in the room. Except in very warm weather, a little fire should be kept in the room, and at the same time fresh air should be admitted from without, and a uniform temperature thus preserved. This arrangement is especially necessary in localities where great variations in temperature are experienced during the day and night.

The normal temperature of the body ranges from 98° to 99° Fahr. The minimum occurs from 2 to 6 A. M.; the maximum, from 1 to 6 P. M. The deviation of a few degrees from this standard indicates disease, and the greater the deviation, the greater is its severity. During the early stages of acute diseases, the animal heat is generally increased, and should be allayed by bathing, and cooling or acidulated drinks. In the latter stages, the temperature becomes diminished and the con-

dition of the system is favorable to congestions, which are most likely to occur between the hours of 2 and 6 A. M., when the vital powers are lowest. The patient then becomes feeble, his extremities grow cold, and he has what is termed a "sinking spell," and perhaps dies. It is during these hours that additional covering, the application of hot bricks to the feet, and bottles of hot water to the limbs and body, friction upon the surface, stimulating drinks, and increased vigilance on the part of the nurse will often save the patient's life. But, unfortunately, at these hours the nurse is apt to get sleepy and inattentive, the demands of the patient go unheeded, and a sacrifice of life is the result.

Persons suffering from chronic diseases, or those in feeble health, should preserve their vital energies by dressing warmly, by wearing flannels next to the skin, and by carefully protecting the feet from cold and moisture.

Cleanliness cannot be too thoroughly impressed upon the minds of those who have the care of the sick. Filthiness is productive of disease and favorable to its development. Bathing at least once a day, with pure, soft water and toilet-soap, is strongly urged, and as this is designed for cleanliness, the temperature of the bath should be made agreeable to the patient.

The Clothing and Bedding of the Patient in acute diseases, should be changed frequently and thoroughly aired, if not washed. As soon as removed, these articles should be taken from the room, replaced by others *well aired and warmed*. The hands and face of the patient should be bathed frequently, the hair combed, the teeth brushed, the nails cleaned, the lips moistened, and everything about him kept clean and tidy. These observances, although in themselves trifling, promote comfort and cheerfulness, and contribute largely to the recovery of the sick. All excretions from the patient should be buried, and not committed to places where disease may be communicated to those who frequent them.

The Diet contains a very important relation to health. During the process of acute disease, the appetite is generally much impaired, if not entirely absent. It should then be the study of the nurse to devise such articles of nourishment as will be acceptable to the patient and suitable to the condition. The food should be light, nutritious, and easy of digestion.

Each individual disease requires a diet adapted to its peculiarities. Those of an inflammatory character require an unstimulating diet, as gruel, barley-water, toast, etc. An exhausted or enfeebled condition of the brain, unattended by irritability, demands a stimulating diet, as beef, eggs, fish, Graham bread, oysters, etc. In wasting diseases, in which the temperature of the system is low, beef, fatty substances, rich milk, sweet cream, and other carbonaceous articles of diet are recommended. In the various forms of chronic ailments, the diet must be varied according to the nature of the disease and the peculiarities of the patient. Deranged digestion is generally an accompaniment of chronic disease. A return to normal digestion should be encouraged by selecting appropriate articles of food, paying due regard to its quantity and quality, as well as to the manner and time of eating. The appearance of food, and the manner in which it is offered, have much to do with its acceptance, or rejection by the patient. Let the nourishment be presented in a nice, clean dish, of a size and shape appropriate to the quantity. More food than can be eaten by the patient should not be placed before him at one time, since a great quantity excites disgust and loathing. In taking nourishment, drink, or medicine, the patient, if feeble, should not be obliged to change his position.

Milk is one of the most important foods in fevers and acute diseases attended with great prostration, and in which the digestive powers are enfeebled. It contains within itself all the elements of nutrition.

Beef Tea furnishes an excellent nourishment for the sick, but there are few, even among professional nurses who know how to properly prepare it. We give three good recipes. One method is to chip up lean beef, put it in a porcelain or tin saucepan, cover it with *cold* water, and bring it up to just below the boiling point, at which temperature *retain it* for ten minutes, then season and serve. Another method is similar to the foregoing, with this difference, that the juices of the meat are squeezed through a piece of muslin or crash, making the tea richer. Another way, which we consider preferable to either of the above, is to take lean beef, cut it into fine bits, put them in a tightly covered vessel, which is placed in a kettle of water kept boiling. Thus the whole strength of the juice

will be obtained from the meat without losing any of its properties. It can be seasoned to the taste, and reduced with water to suit the needs of the patient.

Sleep is "Nature's grand restorer, a balm to all mankind; the best comforter of that sad heart whom fortune's spite assails." It is necessary in health, and doubly so in sickness. During sleep, the vital energies recuperate, the forces are less rapidly expended, and the strength increases. It is the great source of rest and refreshment. Often a day's rest in bed, free from the cares and anxieties of an active life, is sufficient to ward off the approach of disease. If quiet and rest are essential to recuperation in health, their necessity in diseases must be apparent. Life frequently depends on tranquility and repose, and the least noise or confusion disturbs the sufferer and diminishes the chances of recovery. Nothing annoys sick or nervous persons more than whispering and the rustling of newspapers. If conversation be necessary, let the tones be modified, but never whisper. In sickness, when the vital forces are low, the more natural rest and sleep the patient obtains, the greater is the prospect for recovery. As a rule, *a patient should never be awakened when sleeping quietly*; not even to take medicine, unless in *extreme cases*. If the patient does not sleep, the cause should be ascertained and the appropriate remedies employed; if it arise from rush of blood to the head, cooling lotions should be applied, and warmth to the feet; if, from restlessness or general irritability, a sponge bath, followed by friction should be administered; if the wakefulness is due to noise or confusion, quiet is the remedy. When these means fail, anodynes, or nervines, should be employed. Lying on the side instead of on the back should be practiced. Patients afflicted with chronic diseases, on rising, should take a cold bath, dry the surface quickly with a coarse towel, followed by friction with the hand. Great benefit may be derived by following these suggestions when the nature of the disease is not such as to forbid it.

Exercise and rest necessarily alternate with each other. Exercise, so necessary to health, in many forms of disease greatly contributes to recovery. It sends the sluggish blood coursing through the veins and arteries with increased force and rapidity, so that it reaches every part of the system,

supplying it with nourishment. It increases the waste of old material and creates a demand for new.

Convalescing patients, or those suffering from chronic diseases, whenever the weather will permit, should take exercise every day in the open air. This should be done with regularity. The amount of exercise must be regulated by the strength of the patient; never take so much as to produce fatigue, but, as the strength increases, the exercise may be increased proportionately. Some interesting employment, commensurate with the patient's strength, should be instituted, so that the mind may be agreeably occupied with the body.

When unable to take active exercise, the invalid, properly protected by sufficient clothing, should ride in the open air, and each day a new route should be chosen, so that a change of scenery may be observed, thus arousing new trains of thought, which will be exhilarating and prove beneficial to him.

Sexual Influences. During the progress of disease or convalescence, entire continence must be observed. It is then necessary that all of the vital energies should be employed in effecting a recovery from disease, without having the additional tax imposed of overcoming the debilitating effects of sexual expenditure. This holds true with regard to all diseases, and especially those of the nervous system and genito-urinary organs.

Visiting the Sick may be productive of good or evil results. Mental impressions made upon the sick exert a powerful influence upon the termination of the disease. The chances of recovery are in proportion to the elevation or depression of spirits. Pleasant, cheerful associations animate the patient, inspire hope, arouse the vital energies, and aid in his recovery; while disagreeable and melancholy associations beget sadness and despondency, discourage the patient, depress the vital powers, enfeeble the body, and retard recovery.

Unless persons who visit the sick can carry with them joy, hope, mirth, and animation, they had better stay away. This applies equally in acute and chronic diseases. It does not matter what a visitor may *think* with regard to the patient's recovery, *an unfavorable opinion should never find expression in the sick-room.* Life hangs upon a brittle thread, and often

that frail support is *hope*. Cheer the sick by words of encouragement, and the hold on life will be strengthened; discourage, by uttering such expressions as, "How bad you look!" "Why, how you have failed since I saw you last!" "I would have another doctor; one who knows something!" "You can't live long if you don't get help!" etc., and the tie which binds them to earth is snapped asunder. The visitor becomes a *murderer*! Let all persons be guided by this rule: *Never go into the sick-room without carrying with you a few rays of sunshine!*

If the patient is very weak the visitor may injure him by staying too long. The length of the visit should be graduated according to the strength of the invalid. Never let the sufferer be wearied by too frequent or too lengthy visits, nor by having too many visitors at once. Above all things, do not confine your visitations to Sunday. Many do this and give themselves credit for an extra amount of piety on account of it, when, if they would scrutinize their motives more carefully, they would see that it was but a contemptible resort to save time. The sick are often grossly neglected during the week only to be visited to death upon Sunday.

The use of Tobacco and Opium. The recovery of the sick is often delayed, sometimes entirely prevented, by the habitual use of tobacco or opium. In acute diseases, the appetite for tobacco is usually destroyed by the force of the disease, and its use is, of necessity, discontinued; but in chronic ailments, the appetite remains unchanged, and the patient continues his indulgence greatly to the aggravation of the malady.

The use of tobacco is a pernicious habit in whatever form it is introduced into the system. Its active principle, Nicotin, which is an energetic poison, exerts its specific effect on the nervous system, tending to stimulate it to an unnatural degree of activity, the final result of which is weakness, or even paralysis. The horse, under the action of whip and spur, may exhibit great spirit and rapid movements, but urge him beyond his strength with these agents, and you inflict a lasting injury, Withold the stimulants, and the drooping head and moping pace indicate the sad reaction which has taken place. This illustrates the evils of habitually exciting the nerves by the

use of tobacco, opium, narcotic or other drugs. Under their action, the tone of the system is greatly impaired, and it responds more feebly to the influence of curative agents. Tobacco itself, when its use becomes habitual and excessive, gives rise to the most unpleasant and dangerous pathological conditions. Oppressive torpor, weakness or loss of intellect, softening of the brain, paralysis, nervous debility, dyspepsia, functional derangement of the heart, and diseases of the liver and kidneys are not uncommon consequences of the excessive employment of this plant. A sense of faintness, nausea, giddiness, dryness of the throat, tremblings, feelings of fear, disquietude, and general nervous prostration must frequently warn persons addicted to this habit that they are sapping the very foundation of health. Under the continued operation of a poison, inducing such symptoms as these, what chance is there for remedies to accomplish their specific action? With the system already thoroughly charged with an influence antagonistic to their own, and which is sure to neutralize their effect, what good can medicine do?

Dr. King says, "A patient under treatment should give up the use of tobacco, or his physician should assume no responsibility in his case, further than to do the best he can for him." In our own extensive experience in the treatment of chronic diseases, we have often found it necessary to resort to the same restriction.

The opium habit, to which allusion has also been made, is open to the same objections, and must be abandoned by all who would seek recovery.

PART IV.

DISEASES AND THEIR REMEDIAL TREATMENT.

INTRODUCTION.

Knowledge which is conducive to self-preservation is of *primary* importance. That great educator, profound thinker, and vigorous writer, Herbert Spencer, has pertinently said that, "As vigorous health and its accompanying high spirits, are larger elements of happiness than any other things whatever, the teaching how to maintain them is a teaching that yields to no other. And therefore we assert that such a course of physiology as is needful for the comprehension of its general truths and their bearings on daily conduct is an all-essential part of a rational education."

Believing that the diffusion of knowledge for the prevention of disease is quite as noble a work as the alleviation of physical suffering by medical skill, we have devoted a large portion of this volume to the subjects of physiology and hygiene. These we have endeavored to present in as familiar a style as possible, that they may be understood by every reader. Freely as we have received light upon these subjects have we endeavored to reflect it again, in hopes that a popular presentation of these matters made plain and easy of comprehension to all people, may lead the masses into greater enjoyment of life—the result of a better preservation of health. This we do in part as a public acknowledgment of our obligations to society, to whom every professional man is a debtor. He belongs to it, is a part of its common stock, and should give as well as receive

advantages, return as well as accept benefits. We know of no better way to signify our appreciation of the public confidence and patronage, so generously accorded to us, than to offer this volume to the people at a price less than the actual cost for an edition of ordinary size. This we do as a token of the cordial reciprocation of their good will. In giving to the people wholesome advice, by which they may be enabled to ward off disease and thus preserve the health of multitudes, we believe we shall receive their hearty approval, as well as the approbation of our own conscience, both of which are certainly munificent rewards. We believe that good deeds are always rewarded, and that the physician who prevents sickness manifests a genuine and earnest devotion to the common interests of humanity.

We have no respect for the motives of those medical men who would withhold that information from the people which will direct the masses how to take care of themselves, and thereby prevent much sickness and suffering. Nor is the diffusion of such knowledge antagonistic to the best interests of the true and competent physician. The necessity for his invaluable services can no more be set aside by popularizing physiological, hygienic, and medical truths, than we can dispense with those of the minister and lawyer by the inculcation of the principles of morality in our public schools. The common schools do not lessen the necessity for colleges or universities, but rather contribute to their prosperity. Nor are we so presumptuous as to anticipate that we could possibly make this volume so instructive as to render "every man his own physician." No man can with advantage be his own lawyer, carpenter, tailor, and printer; much less can he hope to artfully repair his own constitution when shattered by grave maladies, which not only impair the physical functions, but weaken and derange the mental faculties. What physician presumes to prescribe for himself, when suddenly prostrated by serious illness? He very sensibly submits to the treatment of another, because he realizes that sickness impairs his judgment, and morbid sensations mislead and unfit him for the exercise of his skill. If this is true of the physician, with how much greater force does it apply to the unprofessional! If a sick sea-captain is unfit to stand at the helm and direct his ship, how utterly incompetent must the raw sailor be when similarly disqualified! Nor is the

physicians as competent to treat those near and dear to him, when they are suffering from dangerous illness, as another medical man not similarly situated, whose judgment is not liable to be misled by intense anxiety and affectionate sympathy.

Notwithstanding all these facts, however, a knowledge on the part of the unprofessional, of something more than physiology and hygiene, and appertaining more closely to medicine proper, will many times prove valuable.

In the first stage of many acute affections which, if unheeded, gradually assume a threatening aspect, endangering life and demanding the services of the most skilled physician to avert fatal results, the early administration of some common domestic remedy, such as a cathartic, or a diaphoretic herb, associated with a warm bath, a spirit vapor-bath, or a hot foot-bath, will very often obviate the necessity for calling a family physician, and frequently save days and weeks of sickness and suffering.

So, likewise, are there numerous, acute diseases of a milder character which are easily and unmistakably recognized without the possession of great medical knowledge, and which readily yield to plain, simple, medical treatment which is within the ready reach of all who strive to acquaint themselves with the rudiments of medical science. But in sudden and painful attacks of acute disease, life may be suddenly and unexpectedly jeopardized, and immediate relief prove necessary. While under these circumstances the prompt application of such domestic treatment as good common-sense may dictate, guided by a knowledge of those first principles of medical learning which we shall hereinafter endeavor to make plain, may result in speedy and happy relief, yet at the same time there should be no delay in summoning a competent physician to the bedside of the sufferer.

Then, and not the least important, there are the various chronic or lingering diseases, from all of which few individuals indeed, who pass the meridian of life, entirely escape. In this class of ailments there is generally no immediate danger, and, therefore, time may be taken by the invalid for studying his disease and employing those remedies which are best suited for its removal. Or, if of a dangerous or complicated character,

and, therefore, not so readily understood, he may consult either personally or by letter, some learned and well-known physician, who makes a specialty of the treatment of such cases, and whose large experience enables him to excel therein.

In consideration, therefore, of the foregoing facts, we deem it most profitable for our readers that Part Fourth of this volume should be arranged in the following manner:

The milder forms of uncomplicated, acute diseases, which may be readily and unmistakably recognized, and successfully managed without professional aid, will receive that attention which is necessary to give the reader a correct idea of them, and their proper remedial treatment.

We shall devote only such attention to the severe and hazardous forms of acute diseases as is necessary in order to consider their initial stage, with their proper treatment, not attempting to trace their numerous complications, or portray the many pathological conditions which are liable to be developed. For, even by devoting much space to the latter, we could not expect to qualify our unprofessional readers for successfully treating such obscure and dangerous conditions.

We shall devote the largest amount of space to a careful and thorough consideration of those chronic diseases, which, by a little study, may be readily recognized and understood by the masses, and for the cure of which we shall suggest such hygienic treatment and domestic remedies as may be safely employed by all who are in quest of relief. In the more dangerous, obscure, or complicated forms of chronic diseases, the correct diagnosis and successful treatment of which tax all the skill possessed by the experienced specialist, the invalid will not be misled into the dangerous policy of relying upon his own judgment and treatment, but will be counseled not to postpone until too late, the employment of a skillful physician.

The apportionment of space which is made in considering the various diseases and their different stages, as well as the course which the people are advised to pursue under the different circumstances of affliction, is not always in accordance with the plans and recommendations which have been made by others who have written works on domestic medicine. Most of these authors have attempted, by lengthy disquisitions, to teach

their readers how to treat themselves without the services of a physician, even in the most hazardous form of disease. In such dangerous maladies as typhoid, typhus, yellow, and scarlet fevers, typhoid pneumonia, and many others, in which life is imminently imperiled, such instructions and advice is decidedly reprehensible, as it may lead to the most serious consequences. We are confident, therefore, that the manner of disposing of the different subjects which are discussed in the succeeding chapters, and the course of action which is advised, will commend themselves to our readers as being such as are calculated to promote and subserve their best interests.

MEDICAL DIAGNOSIS.

Skill in the art of healing is indicated in three ways: (1.) By ascertaining the *symptoms*, *seat*, and *nature* of the disease, which is termed *diagnosis*; (2.) by foretelling the probable termination, which is termed *prognosis*; (3.) by the employment of efficacious and appropriate remedies, which is called *treatment*. Of these three requisites to a prosperous issue, nothing so distinguishes the expert and accomplished physician from the mere pretender as his ready ability to interpret correctly, the location, extent, and character of an affection from its symptoms. By medical diagnosis, then, is understood the discrimination between diseases by certain symptoms which are distinguishing signs. Every malady is accompanied by its characteristic indications, some of which are *diagnostic*, *i. e.*, they particularize the affection and distinguish it from all others.

Medical diagnosis is both a *science* and an *art*; a science when the causes and symptoms of a disease are understood, and an art when this knowledge can be applied to determine its location and exact nature. Science presents the general principles of practice; art detects among the characteristic symptoms the differential signs, and applies the remedy. Da Costa aptly remarks: "No one aspiring to become a skillful observer can trust exclusively to the light reflected from the writings of others; he must carry the torch in his own hands, and himself look into every recess."

The critical investigation of symptoms, with the view of ascertaining their signs, is essential to successful practice.

Without closely observing them, we cannot accurately trace out the diagnosis, and a failure to detect the right disease is apt to be followed by the use of wrong medicines.

General diagnosis considers the surroundings of the patient as well as the actual manifestations of the disease. It takes into account the diathesis, *i. e.*, the predisposition to certain diseases in consequence of peculiarities of constitution. We recognize constitutional tendencies, which may be indicated by the contour of the body, its growth, stature, and temperament, since all these facts greatly modify the treatment. Likewise the sex, age, climate, habits, occupation, previous diseases, as well as the present condition, must be taken into account.

Auscultation, as practiced in detecting disease, consists in listening to the sounds which can be heard in the chest.

Percussion consists in striking upon a part with the view of appreciating the sound which results. The part may be struck directly with the tips of the fingers, but more generally one or more fingers of the other hand are interposed between the points of the fingers and the part to be percussed, that they, instead of the naked chest, may receive the blow; or, instead of the fingers, a flat piece of bone or ivory, called a *pleximeter*, is placed upon the chest to receive the blow.

Latterly, improved instruments greatly assist the practitioner of medicine in perfecting this art. The *microscope* assists the eye, and helps to reveal the appearance and character of the excretions, detecting morbid degenerations; *chemistry* discloses the composition of the urine, which also indicates the morbid alterations occurring in the system; by percussion we can determine the condition of an internal organ, from the sound given when the external surface is percussed; the ear, with the aid of the *stethoscope*, detects the strange murmurs of respiration, the fainter, more unnatural pulsations of life, and the obscurer workings of disease; the *dynamometer* records the lifting ability of the patient; the *thermometer* indi-

cates the morbid variation in the bodily temperature; various instruments inform us of the structural changes causing alterations in the specific gravity of fluids, *e. g.*, the *urinometer* indicates those occurring in the urine; and thus, as facilities for correct diagnosis increase, the art of distinguishing and classifying diseases becomes more perfect, and their treatment more certain. While physiology treats of all the natural functions, pathology treats of lesions and altered conditions.

By the term *symptoms* we mean the evidence of some morbid effect or change occurring in the human body, and it requires close observation and well-instructed experience to convert these symptoms into diagnostic signs. Suppose "Old Probabilities" (as we commonly designate the invaluable Signal Department) hangs out his warning tokens all along our lake borders and ocean coasts; our sailors behold the fluttering symbols indicating an approaching storm, but if no one understood their meaning, a fearful disaster might follow. But if these signals are understood, a safe harbor is sought and the mariner is protected. So disease may hang out all her signals of distress, in order that they may be seen, but unless correctly interpreted, and a remedial harbor is sought, these symptoms are of little practical value.

Undoubtedly the reason why so many symptom-doctors blunder is because they prescribe according to the apparent symptoms, without any real reference to the nature of the affection. They fail to discover how far a symptom points out the seat, and also the progress of a disease. They do not distinguish the relative importance of the different symptoms. The practical purpose of all science is to skilfully apply knowledge to salutary and profitable uses. The patient himself may carefully note the indications, but it is only the expert physician who can tell the import of each symptom.

Symptoms are within every one's observation, but only

the physician knows the nature and value of *signs*. We have read an anecdote of Galen, who was a distinguished physician in his day, which illustrates the distinction between sign and symptom. Once, when dangerously ill, he overheard two of his friends in attendance upon him recount his symptoms, such as "Redness of the face, a dejected, haggard, and inflamed appearance," etc. He cried out to them to adopt every necessary measure forthwith, as he was threatened with delirium. The two friends saw the *symptoms* well enough; but it was only Galen himself, though the *patient*, who was able to deduce the *sign* of delirium—that is, he alone was able to translate those symptoms into signs. To determine the value of symptoms, as signs of disease, requires close observation.

INTERPRETATION OF SYMPTOMS.

We shall refer to a few symptoms which any unprofessional reader may readily observe and understand.

Position of Patient. When a patient is disposed to lie upon his back continually during the progress of an acute disease, it is a sign of *muscular debility*. If he manifests no desire to change his position, or cannot do so, and becomes tremulous at the least effort, it indicates *general prostration*. When this position is assumed, during the progress of continued fever, and is accompanied by involuntary twitching of the muscles, picking of the bed-clothes, etc., then danger is imminent and *the patient is sinking*. Fever, resulting from local inflammation, does not produce muscular prostration, and the patient seldom or never assumes the supine position. If this inflammation is in the extremities, those parts are elevated, in order to lessen the pressure of the blood, which a dependent position increases.

For example, let us change the scene, and introduce a patient with head and shoulders elevated, who prefers to sit up, and who places his hands behind him and leans back, or leans forward resting his arms and head upon a chair. The next week he is worse, and no longer tries to lie in bed, but sits up all the time; note the anxious expression of countenance, the difficult or hurried breathing, the dry and hacking cough, and observe that the least exertion increases the diffi-

culty of respiration and causes palpitation of the heart. These plain symptoms signify thoracic effusion, the collection of water about the lungs.

The Countenance displays diagnostic symptoms of disease. In simple, acute fevers, the eyes and face are red and the respiration is hurried; but in acute, sympathetic fever, these signs are wanting. We cannot forget the pale, sharp, contracted, and pinched features of those patients whose nostrils contract and expand alternately with the acts of respiration. How hard it was for them to breathe. The contraction and expansion of the nostrils indicate active congestion of the lungs.

As a general rule, chronic inflammation of the stomach, duodenum, liver, and adjacent organs, imparts a gloomy expression to the countenance, at the same time the eye is dull, the skin dusky or yellow, and the motions are slow. But in lung diseases, the spirits are buoyant, the skin is fair, and the cheeks flushed with fever and distinctly circumscribed with white, for delicacy and contrast, almost exceed the hues of health in beauty. Note, too, the pearly lustre and sparkling light of the eye, the quivering motion of the lips and chin, all signs of pulmonary disease.

The Story of Sexual Abuse is plainly told by the down-cast countenance, the inability to look a person fairly in the face, the peculiar lifting of the upper lip and the furtive glance of the eye. The state of the mind and of the nervous system corroborates this evidence, for there seems to be a desire to escape from conversation and to elude society. The mind seems engrossed and abstracted, the individual appears absorbed in a constant meditation, he is forgetful and loses nearly all interest in the ordinary affairs of life. The whole appearance of a patient, suffering from spermatorrhea, is perfectly understood by the experienced physician, for the facial expressions, state of mind, and movements of the body, all unconsciously betray, and unitedly proclaim his condition.

Tongue. Much may be learned from the appearance, color, and form of the tongue, and the manner of its protrusion. If pale, moist, and coated white, it indicates a mild, febrile condition of the system. If coated in the center, and

the sides look raw, it indicates gastric irritation. If red and raw, or dry and cracked, it is a sign of inflammation of the mucous membrane of the stomach. If the inflammation is in the large intestine, the tip of the tongue presents a deep red color, while the middle is loaded with a dark brown coating. When the tongue is elongated and pointed, quickly protruded and withdrawn, it indicates irritation of the nerve-centers, as well as of the stomach and bowels. If tremulous, it denotes congestion and lack of functional ability; this may be observed in congestive fevers.

Pulse. Usually the pulse beats four times during one respiration, but both in health and disease its frequency may be accelerated or retarded. In adults, there are from sixty-five to seventy-five beats in a minute, and yet in a few instances we have found, in health, only forty pulsations per minute. But when the heart beats from one hundred and twenty to one hundred and forty times a minute, there is reason to apprehend danger, and the case should receive the careful attention of a physician.

Irregularity of the pulse may be caused by disease of the brain, heart, stomach, or liver; by the disordered condition of the nervous system; by lack of muscular nutrition, as in gout, rheumatism, or convulsions; by deficiency of the heart's effective power, when the pulse-wave does not reach the wrist, or when it intermits and then becomes more rapid in consequence of septic changes of the blood, as in diphtheria, erysipelas, and eruptive fevers.

Pain. The import of pain depends on its seat, intensity, nature, and duration. An acute, intense pain usually indicates inflammation of a nerve as well as the adjacent parts. Sharp, shooting, lancinating pains occur in inflammation of the serous tissues, as in pleurisy. A smarting, stinging pain attends inflammation of the mucous membrane. Acute pain is generally remittent and not fixed to one spot. Dull, heavy pain is more persistent, and is present in congestions, or when the substance of an organ is inflamed, and it often precedes hemorrhage. Burning pain characterizes violent inflammations involving the skin and subjacent cellular tissue, as in case of boils and carbuncles. Deep, perforating pain accompanies inflammation of the bones, or of their envelop-

ing membranes. Gnawing, biting, lancinating pain attends cancers.

The location of pain is not always at the seat of the disease. In hip-disease, the pain is not first felt in the hip, but in the knee-joint. In chronic inflammation of the liver, the pain is generally most severe in the right shoulder and arm. Disease of the kidneys occasionally produces numbness of the thigh and drawing up of the testicle, and commonly causes colicky pains. Inflammation of the meninges of the brain is often indicated by nausea and vomiting before attention is directed to the head. These illustrations are sufficient to show that pain often takes place in some part remote from the disease.

In chronic, abdominal affections, rheumatic fevers, gout, and syphilis, the entire system is thrown into a morbid state, the nervous system is disturbed, and wandering pains manifest themselves in different parts of the body. Fixed pain, which is increased by pressure, indicates inflammation. If it be due only to irritation, pressure will not increase it. Some rheumatic affections and neuralgia not only bear pressure, but the pain diminishes under it. Permanent pain shows that the structures of an organ are inflamed, while intermittent pain is a sign of neuralgia, gout, or rheumatism. Absence of pain in any disease, where ordinarily it should be present, is an unfavorable sign. Internal pain, after a favorable crisis, is a bad omen. Or, if pains cease suddenly without the other symptoms abating, the import is bad. If, however, pain and fever remit simultaneously and the secretions continue, it is a favorable sign.

A dull pain in the head indicates fullness of the blood-vessels from weakness, low blood, or general debility. It may be caused by taking cold, thus producing passive congestion of the brain. It may proceed from gastric disturbance, constipation of the bowels, or derangement of the liver. Heaviness of the head sometimes precedes inflammation of the brain, or chronic disease of its membranes. A dull, oppressive pain in the head indicates softening of the brain, and is generally accompanied by slowness of the pulse and of the speech. A pulsating pain of the head occurs in heart disease, hysteria, and frequently accompanies some forms of insanity.

The Eye indicates morbid changes and furnishes unmistakable signs of disease. Sinking of the eye indicates waste, as in consumption, diarrhea, and cholera. In fevers it is regarded as a fatal symptom. A dark or leaden circle around the eye, seen after hard work, indicates fatigue and overdoing. If the mucous covering of the inner surface of the lids and the ball of the eye is congested and inflamed, it exhibits redness, and may indicate congestion or even inflammation of the brain.

A dilated pupil is often observed in catarrhal consumption, congestion of the brain, low fevers, and chlorosis.

The pupil contracts in inflammation of the meninges, when there is increased sensibility and intolerance of light, also in spinal complaints. In some diseases the lustre of the eye increases, as in consumption. But if it decreases with the attack of violent disease, it indicates great debility and prostration.

Examination of the Urine. All medical authors and physicians of education, freely admit and even insist upon the importance of critically examining the patient's urine, in all cases in which there is reason to suspect disease of the kidneys or bladder. In chronic affections it is particularly serviceable, especially in derangements of the liver, blood, kidneys, bladder, prostate gland, and nervous system. Many scholarly physicians have sadly neglected the proper inspection of the urine, because they were afraid of being classed with the illiterate "uroscopian" doctors, or fanatical enthusiasts, who ignorantly pretend to diagnose correctly *all* diseases in this manner, thus subjecting themselves and their claims to ridicule. Nothing should deter one from giving to this excretion the attention it deserves.

The urine which is voided when the system is deranged or diseased is altered in its color and composition, showing that its ingredients vary greatly. So important an aid do examinations of the urine furnish in diagnosing many chronic ailments, that at the Invalids' Hotel and Surgical Institute, where many thousands of cases are annually treated, a chemical laboratory has been fitted up, and a skillful chemist is employed, who makes a specialty of examining the urine, both chemically and microscopically, and reporting the result to the attending physicians. His extended experience renders his services invaluable. With

his assistance, maladies which had hitherto baffled all efforts put forth to determine their true character, have frequently been quickly and unmistakably disclosed.

Microscopical Examination. This method of examination affords a quicker and more correct idea of a deposit or deposits than any other method. The expert, by simply looking at a specimen, can determine the character of the urine, whether blood, mucus, pus, uric acid, etc., are present or not. But when no deposit is present, then it is necessary to apply chemical tests, and in many cases the quantity of the suspected ingredient must be determined by analysis. As a detailed account of the various modifications which the urine undergoes in different diseases, would be of no practical use to the masses, since they could not avail themselves of the advantages which it would afford for correct diagnosis, except by the employment of a physician who does not ignore this aid in examining his patients, we shall omit all further details upon the subject. For the same reason we shall not often, in treating of the different diseases in which examinations of the urine furnish such valuable aid in forming a diagnosis, make mention of the changes which are likely to have occurred.

INFLAMMATION.

The term *Inflammation* signifies a state in which the infected part is hotter, redder, more congested, and more painful than is natural. Inflammation is limited to certain parts, while fever influences the system generally. Inflammation gives rise to new formations, morbid products, and lesions, or alterations of structure. The morbid products of fever, and its modifications of fluids are carried away by the secretions and excretions.

The susceptibility of the body to inflammation may be *natural* or *acquired*. It is natural when it is constitutional; that is, when there is an original tendency of the animal economy to manifest itself in some form of inflammation. We may notice that some children are far more subject to boils, croups, and erysipelatous diseases than others. This susceptibility, when innate, may be lessened by careful medication, although it may never be wholly eradicated. When acquired, it is the result of the influence of habits of life, climate, and the state of mind over the constitution.

Phlegmonous inflammation is the active inflammation of the cellular membrane, one illustration of which is a common boil. The four principal symptoms are redness, swelling, heat, and pain; and then appears a conical, hard, circumscribed tumor, having its seat in the dermoid texture. At the end of an indefinite period, it becomes pointed, white or yellow, and discharges pus mixed with blood. When it breaks, a small, grayish, fibrous mass sometimes appears, which consists of dead, cellular tissue, and which is called the *core*.

There are certain morbid states of the constitution which lead to local inflammation, subsequent upon slight injury; or, in some cases, without any such provocation, as in gout, rheumatism, and scrofula. One of the first results of the inflammation, in such cases, is a weakening of the forces which distribute the blood to the surface and extremities of the body. It is generally admitted that in scrofulous persons the vascular system is weak, the vessels are small, and because nutrition is faulty, the blood is *imperfectly organized*. The result is failure in the system, for if nutrition fails, there may be lacking earthy matter for the bones, or the unctuous secretions of the skin; the sebaceous secretion is albuminous and liable to become dry, producing inflammation of the parts which it ought to protect.

Disorder of the alimentary canal and other mucous surfaces are sometimes reflected upon the skin. We have occasionally observed cutaneous eruptions and erysipelas, when evidently they were distinct signs of internal disorder.

Infammation may be internal as well as external, as inflammation of the brain, lungs, or stomach, and it is frequently the result of what is called a *cold*. No matter how the body is chilled, the blood retreats from the surface, which becomes pale and shrunken, there is also nervous uneasiness, and frequently a rigor, accompanied with chattering of the teeth. After the cold stage, reaction takes place and fever follows. The sudden change from a dry and heated room to a cool and moist atmosphere is liable to induce a cold. Riding in a carriage until the body is shivering, or sitting in a draft of air when one has been previously heated, or breathing a very cold air during the night when the body is warm, especially when not accustomed to doing so, or exposing the body to a low

temperature when insufficiently clothed, are all different ways of producing inflammation.

Inflammation may result in consequence of local injury, caused by a bruise, or by a sharp, cutting instrument, as a knife or an axe, or it may be caused by the puncture of a pin, pen-knife blade or a fork-tine, or from a lacerated wound, as from the bite of a dog, or from a very minute wound poisoned by the bite of a venomous reptile. Local inflammations may arise from scalds, burns, the application of caustics, arsenic, corrosive sublimate, cantharides, powerful acids, abrasions of the surface by injuries, and from the occurrence of accidents.

The *swelling* of the part may be caused by an increase of the quantity of blood in the vessels, the effusion of serum and coagulating lymph, and the interruption of absorption by the injury, or by the altered condition of the inflamed part.

The character of the *pain* depends upon the tissue involved, and upon the altered or unnatural state of the nerves. Ordinarily, tendon, ligament, cartilage, and bone are not very sensitive, but when inflamed they are exquisitely so.

The heat of the inflamed part is not so great, when measured by the thermometer, as might be supposed from the patient's sensations.

Termination of Inflammation. Inflammation ends in one of six different ways. Inflammation may terminate in *resolution*, *i. e.*, spontaneous recovery; by *suppuration*, in the formation of matter; by *effusion*, as the inflammation caused by a blister-plaster terminates by effusion of water; by *adhesion*, the part inflamed forming an attachment to some other part; by *induration*, hardening of the organ; or by *gangrene*, that is, death of the part.

Thus, inflammation of the lungs may terminate by recovery, that is, by resolution, by suppuration and raising of "matter," by hardening and solidification of the lung, or by gangrene. Inflammation of the endocardium, the lining membrane of the heart, may cause a thickening of it, and ossification of the valves of the heart, thus impairing its function. Inflammation of the pericardium may terminate in effusion, or dropsy, and inflammation of the liver may result in hardening and adhesion to adjacent parts.

GENERAL PRINCIPLES FOR TREATMENT OF INFLAMMATION.

Remove the exciting causes as far as practicable. If caused by a splinter or any foreign substance, it should be withdrawn, and if the injury is merely local, apply cold water to the parts to subdue the inflammation. If caused by a rabid animal, the wound should be enlarged and cupped, and the parts cleansed or destroyed by caustic. The patient should remain quiet and not be disturbed. The use of tincture of aconite internally, will be found excellent to prevent the rise of inflammation. A purgative is also advised, and four or five of Dr. Pierce's Pleasant Purgative Pellets will be sufficient to act upon the bowels. If there is pain, an anodyne and diaphoretic is proper. Dr. Pierce's Smart-weed will fulfil this indication. In local inflammation cold water is a good remedy, yet sometimes hot water, or cloths wrung out of it, will be found to be the appropriate application. When the inflammation is located in an organ within a cavity, as the lungs, hot fomentations will be of great service. Bathing the surface with alkaline water must not be omitted. Whenever the inflammation is serious the family physician should be early summoned.

FEVER.

In fever all the functions are more or less deranged. In every considerable inflammation there is sympathetic fever, but in essential fevers there are generally fewer lesions of structure than in inflammation. Fever occasions great waste of the tissues of the body, and the refuse matter is carried away by the organs of secretion and excretion. The heat of the body in fever is generally diffused, the pulse is quicker, there is dullness, lassitude, chilliness, and disinclination to take food. We propose to give only a general outline of fevers, enough to indicate the principles which should be observed in domestic treatment.

Most fevers are distinctly marked by four stages: 1st, the forming stage; 2d, the cold stage; 3d, the hot stage; 4th, the sweating or declining stage. During the first stage the individual is hardly conscious of being ill, for the attack is so slight that it is hardly perceptible. True, as it progresses, there is a feeling of languor, an indisposition to make any

bodily or mental effort, and also a sense of soreness of the muscles, aching of the bones, chilliness, and a disposition to get near the fire. There is restlessness, disturbed sleep, bad dreams, lowness of spirits, all of which are characteristic of the formative stage of fever.

The next is the cold stage, when there is a decided manifestation of the disease, and the patient acknowledges that he is really sick. In typhus and typhoid fever the chills are slight; in other fevers they are more marked; while in ague they are often accompanied by uncontrollable shaking. When the chill is not so distinct the nails look blue and the skin appears shriveled, the eye is sunken and a dark circle circumscribes it, the lips are blue, and there is pain in the back. The pulse is frequent, small, and depressed, the capillary circulation feeble, the respiration increased, and there may be nausea and vomiting. These symptoms vary in duration from a few minutes to more than an hour. They gradually abate, reaction takes place, and the patient begins to throw off the bed-clothes.

Then follows the hot stage, for with the return of the circulation of the blood to the surface of the body, there is greater warmth, freer breathing, and a more comfortable and quiet condition of the system. The veins fill with blood, the countenance brightens, the cheeks are flushed, the intellect is more sprightly, and if the pulse is frequent, it is a good sign; if it sinks, it indicates feeble, vital force, and is not a good symptom. If there is considerable determination of blood to the head it becomes hot, the arteries of the neck pulsate strongly, and delirium may be expected. During the hot stage, if the fever runs high, the patient becomes restless, frequently changes his position, is wakeful, uneasy, and complains of pain in his limbs. In low grades, the sensibility is blunted, smell, taste, and hearing are impaired.

The patient in the hot stage is generally thirsty, and if he is allowed to drink much, it may result in nausea and vomiting. Moderate indulgence in water, however, is permissible. There is aversion to food, and if any is eaten, it remains undigested. The teeth are sometimes covered with dark *sordes* (foul accumulations) early in the fever, and the

appearance of the tongue varies, sometimes being coated a yellowish brown, sometimes red and dry, at other times thickly coated and white. The condition of the bowels varies from constipation to diarrhea, although sometimes they are quite regular. The urine is generally diminished in quantity, but shows higher color.

The sweating stage in some fevers is very marked, while in others there is very little moisture, but an evident decline of the hot stage, the skin becoming more natural and soft. The pulse is more compressible and less frequent, the kidneys act freely, respiration is natural, the pains subside, although there remains languor, lassitude, and weariness, a preternatural sensibility to cold, an easily excited pulse, and a pale and sickly aspect of the countenance. The appetite has failed and the powers of digestion are still impaired.

Domestic Management of Fevers. It is proper to make a thorough study of the early, insidious symptoms of fever, in order to understand what ought to be done. If it arises in consequence of malaria, the treatment must be suited to the case. If from irritation of the bowels and improper articles of diet, then a mild cathartic is required. If there is much inflammation, a severe chill, and strong reaction, then the treatment should be active. If the fever is of the congestive variety and the constitution is feeble, the reaction imperfect, a small, weak pulse, a tendency to fainting, a pale countenance, and great pain in the head, apply heat and administer diaphoretics, and procure the services of a good physician.

As a general rule, it is proper to administer a cathartic, unless in typhoid fever, and for this Dr. Pierce's Purgative Pellets answer the purpose, given in doses of from four to six, according to the state of the bowels. If these are not at hand, a tea of sage and senna may be drunk until it produces a purgative affect, or a dose of Rochelle salts taken. In nearly all fevers we have found that a weak, alkaline tea, made from the white ashes of hickory or maple wood, is useful, taken weak, three or four times daily, or if there be considerable thirst, more frequently. Some patients desire lemon juice, which enters the system as an alkali and answers all purposes.

Diaphoretic medicines are also indicated, and the use of Dr. Pierce's Extract of Smart-weed will prove very serviceable.

Drinking freely of pleurisy-root tea, or of a strong decoction of boneset is frequently useful. After free sweating has been established, then it is proper to follow by the use of diuretic teas, such as that of spearmint and pumpkin seed combined, or sweet spirits of nitre, in doses of twenty to thirty drops, added to a teaspoonful of the Extract of Smart-weed, diluted with sweetened water.

To lessen the frequency of the pulse, fluid extract or tincture of aconite or veratrum may be given in water, every hour. During the intermission of symptoms, tonic medicines and a sustaining course of treatment should be employed. If the tongue is loaded and the evacuations from the bowels are fetid, a solution of sulphite of soda is proper; or, take equal parts of brewer's yeast and water, mix, and when the yeast settles, give a tablespoonful of water ever hour, as an anti-septic. Administering a warm, alkaline hand-bath to a fever patient every day, is an excellent febrifuge remedy, being careful not to chill or induce fatigue. If there is pain in the head, apply mustard to the feet; if it is in the side, apply hot fomentations.

The symptoms which indicate danger are a tumid and hard abdomen, difficult breathing, offensive and profuse diarrhea, bloody urine, delirium, or insensibility. Favorable symptoms are a natural and soft state of the skin, eruptions on the surface, a natural expression of the countenance, moist tongue, free action of the kidneys, and regular sleep. If the domestic treatment which we have advised does not break the force of the disease and mitigate the urgency of the symptoms, it will be safer to employ a good physician, who will prescribe such a course of treatment as the case specially requires. It is our aim to indicate what may be done before the physician is called, for frequently his services cannot be obtained when they are most needed. Besides, if these attacks are early and properly treated with domestic remedies, it will often obviate the necessity of calling upon a physician. If, on the other hand, fevers are neglected and no treatment instituted, they become more serious in character and are more difficult to cure.

To recapitulate, our treatment recommends evacuation through nature's outlets, the skin, kindeys, and bowels, main-

taining warmth, neutralizing acidity, using antiseptics, tonics, and the hand-bath, and the fluid extract or tincture of aconite; or veratrum to moderate the pulse by controlling the accelerated and unequal circulation of the blood. It is a simple treatment, but if judiciously followed, it will often abort a fever, or materially modify its intensity and shorten its course.

FEVER AND AGUE. (INTERMITTENT FEVER.)

The description of fever already given applies well to this form of it, only the symptoms in the former stage are rather more distinct than in the other varieties. Weariness, lassitude, yawning, and stretching, a bitter taste in the mouth, nausea, loss of appetite, the uneasy state of the stomach and bowels are more marked in the premonitory stages of intermittent fevers. The cold stage commences with a chilliness of the extremities and back, the skin looks pale and shriveled, the blood recedes from the surface, respiration is hurried, the urine is limpid and pale, sometimes there is nausea and vomiting, and towards the conclusion of the state, the chilly sensations are varied with flushes of heat. The hot stage is distinguished by the heat and dryness of the surface of the body and the redness of the face; there is a great thirst, strong, full, and hard pulse, free and hurried respiration and increased pain in the head and back. The sweating stage commences by perspiration appearing upon the forehead, which slowly extends over the whole body, and soon there is evident intermission of all the symptoms. In the inflammatory variety of intermittent fever, all these symptoms are acute, short, and characterized by strong reaction. Gastric fever, the most frequent variety of intermittent fever, is marked by irritation of the stomach and bowels, and a yellow appearance of the white of the eye.

Causes. The cause of the malarial fevers, intermittent, remittent, and congestive, is due to the *plasmodium malaria* which is inoculated by the bite of the mosquito. [See MALARIA, page 227.]

Treatment. During the entire paroxysm the patient should be kept in bed, and in the cold stage, covered with blankets and surrounded with bottles of hot water. The Compound Extract of Smart-weed should be administered in

some diaphoretic herb-tea. During the hot stage, the extra clothing and the bottles of hot water should be gradually removed and cold drinks taken instead of warm. During the sweating stage the patient should be left alone, but as soon as the perspiration ceases, from two to four of the "Purgative Pellets" should be administered, as a gentle cathartic. A second paroxysm should, if possible, be prevented. To accomplish this, during the intermission of symptoms, the "Golden Medical Discovery" should be taken in doses of from two to three teaspoonfuls every four hours in alternation with three-grain doses of the sulphate of quinine. If the attack is very severe, and is not relieved by this treatment, a physician should be summoned to attend the case.

REMITTENT FEVER. (BILIOUS FEVER.)

The distinction between *intermittent* and *remittent* fever does not consist in a difference of origin. In the former disease there is a complete intermission of the symptoms, while in the latter there is only a remission.

Treatment. The treatment should consist in the employment of those remedial agents advised in intermittent fever, the "Golden Medical Discovery" and quinine being taken during the remission of symptoms. During the height of the fever, tincture of aconite may be given and an alkaline sponge-bath administered with advantage. As in intermittent fever, should the course of treatment here advised not promptly arrest the disease, the family physician should be summoned.

CONGESTIVE FEVER. (PERNICIOUS FEVER.)

This is the most severe and dangerous form of malarial fever. It may be either intermittent or remittent in character. In some instances the first paroxysm is so violent as to destroy life in a few hours, while in others it comes on insidiously, the first one or two paroxysms being comparatively mild. It is frequently characterized by stupor, delirium, a marble-like coldness of the surface, vomiting and purging, jaundice, or hemorrhage from the nose and bowels. In America this fever is only met with in the Mississippi valley, and in other localities where the air contains a large quantity of malarial poison.

Treatment. This fever is so dangerous that a physician should be summoned as soon as the disease is recognized. For the benefit of those who are unable to obtain medical attendance, we will say that the treatment should be much the same as in intermittent fever, but more energetic. Quinine should be taken in doses of from five to fifteen grains every two or three hours. If it be not retained by the stomach, the following mixture may be administered by injection: Sulphate of quinine, one-half drachm; sulphuric acid, five drops; water, one ounce; dissolve, and then add two ounces of starch water.

CONTINUED FEVERS.

The symptoms of these fevers do not intermit and remit, but *continue* without any marked variation for a certain period. They are usually characterized by great prostration of the system, and are called *putrid* when they manifest septic changes in the fluids, and *malignant* when they speedily run to a fatal termination. *Typhoid* and *typhus* fevers belong to this class. We shall not advise treatment for these more grave disorders which should always, for the safety of the patient, be attended by the family physician, except to recommend some simple means which may be employed in the initial stage of the disease, or when a physician's services cannot be promptly secured.

TYPHOID FEVER. (ENTERIC FEVER).

In typhoid fever there is ulceration of the intestines and mesenteric glands. This diseased condition of the bowels distinguishes this fever from all others, and is readily detected by sensitiveness to pressure, especially over the lower part of the abdomen, on the right side. The early disposition to diarrhea is another characteristic symptom of it, and there is also no intermission of symptoms as in intermittent fever. The disease comes on insidiously, with loss of appetite, headache, chilliness, and languor. It is usually a week or more before the disease becomes fully developed. Vaccination for Typhoid is preventive, but can be applied only by a skilful physician.

Cause. Typhoid fever is a specific form of fever developed from the action of a specific germ upon a susceptible system. The poison of typhoid fever is eliminated mainly through the bowels. The germs of typhoid can maintain life

for months in water, and thus it happens that ponds, lakes, rivers and streams which receive sewage can spread the germs of typhoid fever. Well water often swarms with these poisonous germs. In some cases it has been found that privies, though twenty or forty feet away from a well, have yet drained into it—through a clay soil covered with gravel—and carried the germs to those drinking the water from the well, and even to milk that is cooled in tanks of water contaminated by drainage from outhouses and barns. Next to water, milk is the most prominent carrier of contagion. Flies frequently carry disease.

Treatment. Scientific support has been given the treatment by cold tub baths (70° Fahrenheit) and it is advised by many physicians. Experience has proven that sponge baths and tub baths are of the utmost importance, when the temperature of the patient is at or above 102.5° Fahrenheit. Every three hours the tub bath is given for twenty minutes at 70° Fahrenheit. These may be tepid at first, gradually cooling to 70°. Frictions are applied to patient in the bath, and he is wrapped in blankets when taken out to avoid danger of chill, and then given a warm drink or stimulant. Treatment should be directed by an experienced physician to suit the symptoms. The evacuations from the bowels should be thoroughly disinfected with chloride of lime or carbolic acid, and all drain and sewerage pipes likewise purified. To further avoid spreading the disease, flies must be carefully kept from the patient and the discharges.

SCARLET FEVER (SCARLATINA.)

This fever takes its name from the scarlet color of the eruption on the surface of the body. Sometimes it is comparatively mild, and is then called *Scarlatina Simplex*; when it is accompanied by a sore throat, it is termed *Scarlatina Anginosa*; and when the disease is of a low, putrid type, it is called *Scarlatina Maligna*. This disease has three distinct stages: (1), the stage of invasion; (2), the stage of eruption; and (3), the stage of desquamation. In the first stage there is pain in the head, increased heat of the skin, redness and soreness of the throat, and sometimes nosebleed, diarrhea, or vomiting. The average duration of this stage is twenty-four

hours. The eruptive stage generally begins on the second day, though sometimes it is delayed longer, and the scarlet rash rapidly diffuses itself over the whole body. The redness is vivid and has been compared to the appearance of a boiled lobster. The stage of eruption reaches its maximum of intensity on the third day, and it is important that it does not recede. Redness of the tonsils and throat is one of the early symptoms which precedes any cutaneous eruption. The tongue also is finely spotted with numerous red points which mark its papillæ, presenting an appearance which has been compared to that of a strawberry.

The thirst is urgent, there is no appetite, and vomiting and mild delirium are common. This stage continues from four to six days, and sometimes longer. Desquamation (scaling off of the skin) commences at the decline of the eruption, in the form of minute, branny scales. The duration of this stage is indefinite, and may end in five or six or may continue ten or twelve days.

If the inflammation in the throat is very severe, it may terminate in an abscess, which may also occur in the glands of the neck, and sometimes the inflammation extends to the lips, cheeks, and eyelids. Gangrene within the throat occurs in rare instances. The disease is easily communicated, and usually develops in two to five days after exposure. It occurs most frequently in the third and fourth years of life. There is no other disease so simple, and yet so often liable to prove fatal, as scarlet fever; and for this reason we shall advise the attendance of the family physician.

Domestic treatment may be given as follows, until a physician can be obtained: Catnip, pennyroyal, or pleurisy-root tea, containing one teaspoonful of the "Extract of Smart-weed," may be given, to drive the rash to the surface. Cold drinks are suitable to allay the thirst, nausea, and fever. The sick-room should be kept at a temperature of about 65° Fahr., and fresh air admitted freely. The patient ought not to be overloaded with bedclothes; and the skin should be sponged over twice daily with tepid water, different parts being exposed successively, and carefully dried with soft cloths. Soda may be added to the water, but no soap should be used. The diet should consist of milk, extract of beef, and soups. Injections

may be employed to relieve constipation, but purgatives should be avoided. We repeat that this disease is one which requires the attendance of the family physician, and great care should be exercised during recovery, that no bad results may follow.

SMALL-POX. (VARIOLA.)

Small-pox is produced by a specific poison, which is reproduced and multiplied during the progress of the disease. It is contained in the pustules, and in the excretions and exhalations of affected individuals. It is established after a period of incubation varying from nine to thirteen days after infection.

There are two varieties of this disease, known as *confluent* and *distinct* variola; in the former, the vesicles run together, in the latter, they are separate.

This fever has three stages. The first is that of *invasion*, distinctly marked by a chill or a series of chills, which alternate with flushes of heat. In this stage the tongue becomes coated, there is also nausea and vomiting, pain in the limbs, back, and particularly in the loins, the latter symptom being of diagnostic importance. This stage continues about two days, and if the symptoms are light, it may be expected that the disease will be comparatively mild, and of the *distinct* variety.

The stage of eruption. The eruption begins to appear on the skin, generally on the third day following the attack, though in the throat and mouth may be discovered round, whitish, or ashy spots, several hours previous to the appearance of vesicles on the surface of the body. These are first seen on the face and neck, then on the trunk and upper extremities, and, lastly, on the lower extremities. The eruption at first appears in the form of small, red or purple spots, which change the texture of the skin by becoming more hard, pointed, and elevated. On the fifth day of the eruption they attain their full size, being softened and depressed in the center, and hence are called *umbilicated*. Now a change takes place, and the vesicles fill with "matter" and become pointed, and there is a rise in the fever.

The stage of suppuration commences thus: The pulse quickens, the skin becomes hotter, and in many cases of the confluent variety, swelling of the face, eyelids, and extremities occurs. Frequently there is passive delirium in this stage,

and if diarrhea sets in, it is an unfavorable sign. The duration of this stage of the eruption is four or five days.

The stage of desiccation, or of the drying of the pustules, commences between the twelfth and fourteenth day of the disease. In the confluent variety, patches of scab cover all the space occupied by the eruption, and the skin exhales a sickening odor.

The Treatment should have reference to the determination of the eruption to the surface. If there is thirst, allow cold drinks, ice-water, or lemonade. Bathing the surface with cold water, breathing plenty of fresh air, using disinfectants in the room, and taking antiseptic medicine internally, are proper. Add one part of carbolic acid to six parts of glycerine, mix from two to three drops of this with an ounce of water, and of this preparation administer teaspoonful doses frequently. A few drops of carbolic acid and glycerine may be rubbed up with vaseline, and the surface anointed with it to prevent pitting. The malady is so grave that it should be intrusted to the care of the family physician.

VARIOLOID. (MODIFIED SMALL-POX.)

Varioloid is a modified form of small-pox. There is less constitutional disturbance, and very little or no pitting of the skin. Varioloid generally occurs in persons who have not been fully protected by vaccination. A person suffering from this modification of the disease may, by contagion, communicate to another genuine small-pox. The *treatment* is the same as that recommended in variola.

VACCINIA. (COW-POX.)

The important discovery of vaccination is due to Doctor Jenner, who ascertained that when the cow was affected by this disease and it was then communicated to man, the affection was rendered very mild and devoid of danger, and at the same time it proved a very complete protection against small-pox. Like most other valuable discoveries introduced to the world, it encountered bitter prejudice and the most unfair opposition. Now its inestimable value is generally known and admitted.

In a few cases, in which the quality of the vaccine virus

was deteriorated, its effect is only to slightly modify small-pox, and then the disease resembles that caused by inoculation. The operation of infecting the blood with the *kine virus* is called *vaccination*. All that we know is that when the cow becomes affected with this disease, and it is then transferred to man, it loses its severity and serves as a protection against small-pox. In a great majority of cases this protection is absolute, and only in a very few does it leave the subject susceptible to small-pox, materially modified. The protection it affords against small-pox is found to diminish after the lapse of an indefinite number of years, and hence it is important to be re-vaccinated once or twice, for instance, after an interval of five years. Between the second and third months of infancy is the best period for vaccination, and the place usually selected is the middle of the arm above the elbow-joint.

CHICKEN-POX. (VARICELLA.)

Chicken-pox is an eruptive disease, which affects children, and occasionally adults. It is attended with only slight constitutional disturbance, and is, therefore, neither a distressing nor dangerous affection. The eruption first appears on the body, afterwards on the neck, the scalp, and lastly on the face. It appears on the second or third day after the attack, and is succeeded by vesicles containing a transparent fluid. These begin to dry on the fifth, sixth, or seventh day. This disease may be distinguished from variola and varioloid by the shortness of the period of invasion, the mildness of the symptoms, and the absence of the deep, funnel-shaped depression of the vesicles, so noticeable in variola.

Treatment. Ordinarily very little treatment is required. It is best to use daily an alkaline bath, and, as a drink, the tea of pleurisy-root, catnip, or other diaphoretics, to which may be added from one-half to one teaspoonful of the "Extract of Smart-weed." If the fever runs high, a few drops of aconite in water will control it.

MEASLES. (RUBEOLA.)

This is generally a disease of less severity and importance than the other eruptive fevers, but it is sometimes followed by

serious complications. The stage of invasion is marked by the symptoms of a common cold, sneezing, watery eyes, a discharge from the nostrils, a dry cough, chilliness, and headache. This stage may last four days. Then follows an eruption of red dots or specks, which momentarily disappear on pressure. On the fourth day of the eruption the redness of the skin fades, the fever diminishes, and the vesicles dry into scales or little flakes. The eyes may be inflamed and the bowels may be quite lax at this stage.

Treatment. The great object in the treatment is to bring out the eruption. To effect this, sweating teas are beneficial. The free use of the "Extract of Smart-weed" is recommended, and the skin should be bathed every day with tepid water. Sometimes when warm drinks fail to bring out the eruption, drinking freely of cold water and keeping warmly covered in bed, will accomplish the desired result.

False Measles (*Rose Rash*) is an affection of very little importance and may be treated similarly to a case of ordinary measles.

ERYSIPELAS.

There are few adult persons in this country who have not, by observation or experience, become somewhat familiar with this disease. Its manifestations are both constitutional and local, and their intensity varies exceedingly in different cases. The constitutional symptoms are usually the first to appear, and are of a febrile character. A distinct chill, attended by nausea and general derangement of the stomach is experienced, followed by febrile symptoms more or less severe. There are wandering pains in the body and sometimes a passive delirium exists. Simultaneously with these symptoms the local manifestations of the disease appear. A red spot develops on the face, the ear, or other part of the person. Its boundary is clearly marked and the affected portion slightly raised above the surrounding surface. It is characterized by a burning pain and is very sensitive to the touch. It is not necessary for the benefit of the popular reader that we should draw a distinction between the different varieties of this malady. The distinctions made are founded chiefly upon the *depth* to which the morbid condition extends, and not on any difference in the *nature of the affection*.

Suppuration of the tissues involved is common in the severer forms. Should the tongue become dark and diarrhea set in, attended with great prostration, the case is very serious, and energetic means must be employed to save life. A retrocession of the inflammation from the surface to a vital organ is an extremely dangerous symptom. The disease is not regarded as contagious, but has been known to become epidemic.

Treatment. The treatment during the initial stage of this disease should correspond with the general principles laid down for the treatment of fever. The spirit vapor-bath, with warm, diaphoretic teas, or the "Compound Extract of Smartweed" may be given to favor sweating. The whole person should be frequently bathed in warm water rendered alkaline by the addition of saleratus or soda. The bowels should be moved by a full dose of the "Purgative Pellets." Fluid extract of aconite in small and frequent doses will best control the fever. The specific treatment, which should not be omitted, consists in administering doses of ten drops of the tincture of the muriate of iron in alternation with teaspoonful doses of the "Golden Medical Discovery," every three hours. As a local application, the inflamed surface may be covered with cloths wet in the mucilage of slippery elm. Equal parts of sweet oil and spirits of turpentine, mixed and painted over the surface, is an application of unsurpassed efficacy.

DIPHTHERIA.

This is an exceedingly grave, constitutional disease characterized by a rapid breaking down of the powers of life, together with a peculiar affection of the throat, in which a disposition to the formation of false membranes is a prominent feature. The formation of these membranes, however, is not limited to the throat, but may occur on mucous surfaces elsewhere.

Cause. Infection with the specific germ of the disease by contagion or inoculation. It can be carried in milk or water, and the germs can attach themselves to furniture, walls, clothing, etc. A person with chronic diphtheretic sore throat can infect children or susceptible persons with the disease in its most acute type by kissing. All persons with sore throat should avoid kissing—as this disease is commonly spread in this way.

Symptoms. The symptoms vary in different cases. In some the disease comes on gradually, while in others it is malignant from the first. The throat feels sore, the neck is stiff and a sense of languor, lassitude, and exhaustion pervades the system. Sometimes a chill is experienced at the outset. Febrile disturbance, generally of a low, typhoid character, soon manifests itself. The skin is hot; there is intense thirst; the pulse is quick and feeble, ranging from 120 to 150 per minute. The tongue is generally loaded with a dirty coat, or it may be bright red. The odor of the breath is characteristic, and peculiarly offensive, and there is difficulty in swallowing and sometimes in breathing. Vomiting is sometimes persistent. If we examine the throat, we find more or less swelling of the tonsils and surrounding parts, which are generally bright red, and shining, and covered with a profuse, glairy, tenacious secretion. Sometimes the parts are of a dusky, livid hue, and, in rare instances, pallid. The false membrane, a peculiar tough exudation, soon appears and may be seen in patches, large or small, or covering the entire surface from the gums back as far as can be seen, its color varying from a whitish yellow to a gray or dark ashen tint. It is found oftenest on the tonsils, uvula, soft palate, pharynx, larynx and trachea. When it is thrown off, it sometimes leaves a foul, ulcerating surface beneath. The prostration soon becomes extreme, and small, livid spots may appear on the surface of the body. There may be delirium, which is, in fatal cases, succeeded by stupor, or coma. The extremities become cold; diarrhea, and in some cases convulsions, indicate the approach of death. Sometimes the patient dies before the false membrane forms.

Treatment. The extremely dangerous character of this disease demands that the services of a skillful physician be obtained at once for the purpose of administering the diphtheritic antitoxin, which if used freely in the early stage controls the disease at once. Prior to the arrival of the physician, lose no time in using plenty of good brandy or whisky to offset the extremely weakening effect of the disease. Control the vomiting and allay the thirst by allowing the patient to suck small pieces of ice every five or ten minutes. Hot fomentations of spirits of turpentine should be applied to the

throat. If the physician does not take charge of the patient by this time, the use of permanganate of potash, triturated, in strength of one grain to the ounce, in a mixture of fine sugar of milk and gum acacia, and blown over the parts with an insufflator every few hours, brings the best results if thoroughly carried out; or the throat can be swabbed out with the following mixture: Chlorate of potash, four drachms; tincture of muriate of iron, three drachms; syrup of orange, two ounces; water sufficient to make four ounces; administered every two or three hours. Inhaling steam or lime-water from a steam atomizer is especially good. The use of blisters, caustics, active purges, mercurials, or bleeding, should be condemned. Throughout the whole course of the disease the strength must be supported by the most nourishing diet, as well as by tonics and stimulants. Beef tea, milk, milk punch, and brandy should be freely administered.

We wish to emphasize the fact that a competent physician should be called in as early as possible. The general results of the treatment with antitoxin, if given on the first, second or third day of the disease, are usually favorable. There are rarely any immediately bad results from the hypodermic injections, and the published testimony of careful observers would tend to prove that recovery has followed its use in a larger percentage of cases than under former methods of treatment.

QUINSY. (TONSILLITIS.)

This is an acute inflammation of the tonsils, which generally extends to, and involves adjacent structures, and is attended with general febrile disturbance. Its duration varies from four to twenty days. It sometimes terminates by a gradual return to health (resolution); or by the formation of "matter" within the gland (suppuration). When this latter is the case, the swelling sometimes becomes so great before it breaks as to require lancing.

Causes. It most frequently results from a cold. In some persons there is a predisposition to it, and the individual is liable to recurring attacks. Persons of a scrofulous or rheumatic diathesis are more liable to it than others.

Symptoms. Difficulty of swallowing, soreness, and stiffness of the throat, are the first monitions of its approach.

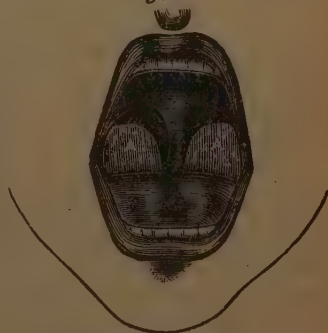
There is fever, quick, full pulse, and dryness of the skin; the tongue is furred, and the breath offensive. The tonsils are intensely red, swollen, and painful, the pain often extending to the ear. Sometimes but one tonsil is affected, though generally both are involved. In severe cases the patient cannot lie down, in consequence of the difficulty of breathing.

Treatment. Free evacuation of the bowels with Dr. Pierce's Pleasant Pellets, followed by the use of Dr. Pierce's Anuric Tablets, one every two hours. These tablets overcome the rheumatic form of the disease and by their antiseptic action destroy the poisons that produce the swelling. A gargle of one percent carbolic acid; that is, eighty drops to a pint of water, gives comfort, and by its antiseptic and soothing effect is of great benefit. Dr. Pierce's Mentha-Soothaline applied externally and covered with a flannel bandage is a benefit. The diet should be milk, taken as hot as possible. A cathartic should be given at night. When the disease does not show a disposition to yield to this treatment, the services of a physician should be obtained. When pus, or "matter," is formed in the tonsil, which may be known by the increased swelling and the appearance of a yellowish spot, the service of a physician will be required to lance it.

ENLARGED TONSILS.

Chronic enlargement of the tonsils, as shown in Fig. 2, A A, is an exceedingly common affection. It is most common to those of a scrofulous habit. It rarely makes its appearance after the thirtieth year, unless it has existed in earlier life, and has been imperfectly cured. Both tonsils are generally, though unequally enlarged. A person affected with this disease is extremely liable to sore throat, and contracts it on the slightest exposure; the contraction of a cold, suppression of perspiration, or derangement of the digestive apparatus being sufficient to provoke inflammation.

Fig. 2.



A A.—Enlarged Tonsils.

B,—Elongated Uvula.

Causes. Repeated attacks of quinsy, scarlet fever, diphtheria, or scrofula, and general impairment of the system, predispose the individual to this disease.

Symptoms. The voice is often husky, nasal or guttural, and disagreeable. When the patient sleeps, a low moaning is heard, accompanied with snoring and stentorian breathing, and the head is thrown back so as to bring the mouth on a line with the windpipe, and thus facilitate the ingress of air into the lungs. When the affection becomes serious, it interferes with breathing and swallowing. The chest is liable to become flattened in front and arched behind, in consequence of the difficulty of respiration, thus predisposing the patient to pulmonary disease. On looking into the throat, the enlarged tonsils may be seen, as in Fig. 2. Sometimes they are so greatly increased in size that they touch each other.

Treatment. The indications to be carried out in the cure of this malady are:

- (1.) To remedy the constitutional derangement.
- (2.) To remove the enlargement of the tonsil glands.

The successful fulfillment of the first indication may be readily accomplished by attention to hygiene, diet, clothing, and the use of Dr. Pierce's Anuric Tablets, together with small daily doses of the "Pleasant Purgative Pellets." This treatment should be persevered in for a considerable length of time after the enlargement has disappeared, to prevent a return.

To fulfill the second indication, astringent gargles may be used. Infusions of witch-hazel or cranesbill should be used during the day. The following mixture is unsurpassed: Iodine, one drachm; iodide of potash, four drachms; pure, soft water, two ounces. Apply this preparation to the enlarged tonsils twice a day, with a probang, or soft swab, being careful to paint them each time. A persevering use of these remedies, both internal and local, is necessary to reduce and restore the parts to a healthy condition.

Sometimes the enlarged tonsils undergo calcareous degeneration; in this case, nothing but their removal by a surgical operation is effectual. This can be readily accomplished by any competent surgeon. We have operated in a large number of cases, and have never met with any unfavorable results.

ELONGATION OF THE UVULA

Chronic enlargement or elongation of the uvula, or palate, as shown at B, Fig. 2, may arise from the same causes as enlargement of the tonsils. It subjects the individual to a great deal of annoyance by dropping into and irritating the throat. It causes tickling and frequent desire to clear the throat, change, weakness, or entire loss of voice, and difficulty of breathing, frequently giving rise to the most persistent and aggravating cough.

Treatment. The treatment already laid down for enlarged tonsils, with which affection elongation of the uvula is so often associated, is generally effectual. When it has existed for a long time and does not yield to this treatment, it may be removed by any competent surgeon.

ANÆMIA

When the blood contains less than the ordinary number of red corpuscles, the condition is known as *anæmia*, and is characterized by every sign of debility. A copious hemorrhage, in consequence of a cut, or other serious injury, will lessen the quantity of blood and may produce *anæmia*. After sudden blood-letting, the volume of the circulation is quickly restored by absorption of fluid, but the red corpuscles cannot be so readily replaced, so that the blood is poorer by being more watery. This is only one way in which the blood is impoverished.

The blood may be exhausted by a drain upon the system, in consequence of hard and prolonged study. Severe mental employment consumes the red corpuscles, leaving the blood thin, the skin cool and pale, and the extremities moist and cold.

Anæmia may arise from lack of exercise, or it may be occasioned by mental depression, anxiety, disappointment, trouble, acute excitement of the emotions or passions, spinal irritation; in fact, there are many special relations existing between the red corpuscles of the blood and the various states of the mind and the nervous system. The latter depends directly upon the health and quantity of these red corpuscles for its ability to execute its functions.

Anæmia may arise in consequence of low diet, or because the alimentary organs do not properly digest the food, or when there is not sufficient variety in the diet. No matter how *anæmia* is occasioned, whether by labor and expenditure,

by hemorrhages, lead poisoning, prolonged exposure to miasmatic influences, deprivation of food, indigestion, imperfect assimilation, frequent child-bearing, or lactation, the number of red corpuscles in the blood is materially diminished.

The diagnostic symptoms of anæmia are pallor of the face, lips, tongue, and general surface, weakness of the vital organs, hurried respiration on slight exercise, swelling or puffiness of the eyes, and a murmur of the heart, resembling the sound of a bellows.

This disorder of the blood tends to develop low inflammation, dropsical effusion, tubercular deposits, Bright's disease, derangements of the liver, diarrhea, leucorrhea, and is a precursor of low protracted fevers. This condition of the blood predisposes to the development of other affections, provided they are in existence, and often it is found associated with Bright's disease, cancer and lung difficulties.

Treatment. (1.) Prevent all unnecessary waste and vital expenditure.

(2.) Place the patient under favorable circumstances for recovery, by regulating the exercise and clothing, entertaining the mind and furnishing plenty of pure air.

(3.) Prescribe such a nutritious diet as will agree with the enfeebled condition of the patient.

(4.) Regular habits should be established in regard to meals, exercise, recreation, rest and sleep.

(5.) The use of tonic and stimulants, as much as the stomach will bear, should be encouraged. Regular bathing is recommended, followed by brisk rubbing of the skin with a coarse towel.

(6.) Iron, in some form, is the special internal remedy in anæmia. Doctor Pierce's Irontic Tablets (iron tonic) are very valuable for anæmic, or thin-blooded, people. Meantime, it is proper to treat the patient with gentle, manual friction, rubbing the surface of the body lightly and briskly with the warm, dry hand, which greatly stimulates the circulation of the blood. Anæmia occurs more frequently in the female than in the male, because her functions and duties are more likely to give rise to it.

Pernicious Anæmia is rare, and until recent discoveries were made was regarded as fatal. It should be treated with special and powerful remedies. If, therefore, satisfactory benefit is not obtained after three months' use of Dr. Pierce's Irontic Tablets, the case should be submitted by letter to the Faculty of the Invalids' Hotel in Buffalo, N. Y., for diagnosis.

GROWTH AND VITAMINES

The development of the young and maintenance of health is profoundly affected by the use of Vitamines found in the foods enumerated hereafter, with plenty of fresh air.

Fat-Soluble A—*This vitamine is especially important for the young as it promotes growth. Rickets and acute eye troubles are at least partially caused by the lack of it. It is found most abundantly in animal fats (milk, cream, butter and cod liver oil), also in animal organs (brains, heart, liver, kidneys and sweetbreads) and in cabbage and spinach.*

Abundant sources: Butter, cod liver oil.

Moderate sources: Cream, mutton and beef fat, animal organs (kidney, heart and brain), salmon, herring, etc., raw milk, fresh eggs, wheat germ, raw cabbage, lettuce, spinach (fresh or dried).

Slight sources: Peanut oil, lean meat, brain and sweetbreads, fish roe, condensed milk, whole milk cheese, whole grains, soy beans, dried cabbage, raw carrots, bananas and nuts.

Water-Soluble B—*This necessary food accessory is also essential to growth, especially to the health of the nerves, to good digestion and a keen appetite. The functioning organs are affected by it.*

The total lack of Water-Soluble B causes beri-beri (general paralysis) and it occurs on a restricted cereal diet unless the whole grain containing bran and germ is fed.

Leading sources of Vitamine B are yeast, eggs and the wheat germ which is removed from white flour; it is also found in animal organs, nuts, fish roe, dried peas and lentils, cabbage, spinach and carrots to a less extent.

Abundant sources: Fresh eggs, wheat germ, yeast (dried or fresh).

Moderate sources: Liver, brains and sweetbreads, fish roe, whole wheat, corn and bran, dried peas and lentils, nuts.

Slight sources: Lean meat, kidneys and heart, milk (skim, whole, dried or condensed), whole grains, cabbage, spinach, carrots, bananas.

Water-Soluble C—*This food accessory is known as an anti-scorbutic (prevents scurvy). It is also probably essential to sound tooth development and is stimulative (languor and depression accompany its marked absence from the diet).*

Oranges, lemons and raw cabbage are its leading sources. Rutabagas and canned tomatoes are also high in this vitamine. Lean meat, carrots and liver have a little.

As its effect is easily destroyed by heat and it is not widely found in nature, precaution is necessary that both adults and children do not run short on Vitamine C.

Abundant sources: Oranges, lemons, raw cabbage, raw rutabagas.

Moderate sources: Fresh limes, tomatoes (fresh or canned), raspberries.

Slight sources: Lean meat, liver, raw milk (whole and skimmed), cooked cabbage, raw carrots, cooked potatoes, cooked onions, apples.

The reason why it is common sense to know something about the vitamine supply is that we over-cook and over-refine our modern foods, and also have captious tastes and appetites—and so may exclude these necessary, vitalizing food accessories from our diet even if living luxuriously. Certain raw foods should be eaten. The cabbage is a notable vitamine carrier, but cooked it loses 90 per cent of its special value.

Having pasteurized our milk supply (wisely, probably, it is choosing the lesser of two evils) and demineralized our grains and taken the fat-bearing germ out of them in most cases, to make them keep better, and preferring most of our foods cooked, it behooves us to keep an eye on the vitamine supply, especially for the children, or we may lose a necessary food contribution to health and vigor. Nature has scattered the vitamine supply generously through all of our leading foods in a motherly effort to protect us, but we must give her a little intelligent co-operation or we may elude even her watchful care by over-civilization and luxurious eating, for pleasure rather than for health.

LEUCOCYTHÆMIA.

This term is used to designate a condition in which there is an excess of colorless blood-corpuscles. In health, the colorless corpuscles should exist only in the proportion of one, to six hundred and sixty-six of the red corpuscles. These colorless corpuscles increase when there is disease of the lymphatic glands, but whether this is the cause of their increase or perversion is not known.

They have been found to be greatly increased in the blood in diseases of the spleen and liver. Diarrhea usually attends this complaint, together with difficult breathing, loss of strength, gradual decline, fever, diminution of vital forces, and finally death. The recovery of a well-marked case of this disease is very doubtful. Its average duration is about one year.

DROPSIES.

Transudation is the passage of fluid through the tissue of any part of the body without changing its liquid state, while *exudation* means, medically, the passage of matter which coagulates and gives rise to solid deposits. When transudations are unhealthy, they may accumulate in serous cavities or in cellular structures, and constitute *dropsy*. Exudation is the result of inflammation, and the product effused coagulates and becomes the seat of a new growth of tissue. Exosmosis means the passage of fluid from within outward, and is a process constantly taking place in health; while transudation takes place because the blood is watery and the tissues are feeble and permeable, permitting the serum and watery elements of the blood to pass into certain cavities, where they accumulate.

The cause of dropsies may be low diet, insufficient exercise, indigestion, hemorrhages, wasting diseases, in fact, any thing which impoverishes the blood and increases the relative amount of serum. The tardy circulation of blood in the veins, or its obstruction in any way, is a condition highly favorable to the development of dropsy.

General dropsy is called *anasarca*, and is readily distinguished by bloating or puffiness of the skin. This condition is also called *edema*. The skin is pale, yields under the finger without pain, and preserves the impression for some time. The edema usually appears first in the lower extremities, next in the face, and from thence extends over the body.

General dropsy is commonly due to an impoverished condition of the blood, and this may be the result of *albuminuria*, a disease of the kidneys. Albuminuria is frequently the sequel of scarlatina. Hence, the utmost care should be taken against exposure of a patient recovering from scarlatina, and during convalescence from measles, erysipelas, and rheumatism. Dropsies may be general, as in *anasarca*, or local, as dropsy due to heart disease, called cardiac dropsy; dropsy due to cirrhosis of the liver, called hepatic dropsy; dropsy of the peritoneum, the serous membrane which lines the abdominal cavity, called *ascites*; dropsy of the chest, called *hydrothorax*; dropsy of the head, called *hydrocephalus*; dropsy of the scrotum, called *hydrocele*.

Dropsy is not, therefore, of itself a disease, but only the symptom of a morbid condition of the blood, kidneys, liver or heart. Thus disease of the valves of the heart, may obstruct the free flow of blood and thus retard its circulation. In consequence the pulse grows small and weak, and the patient can-

not exercise or labor as usual, and finally the lower limbs begin to swell, then the face and body, the skin looks dusky, the appetite is impaired, the kidneys become diseased, there is difficulty in breathing, and the patient, it is said, dies of dropsy, yet dropsy was the result of a disease of the heart, which retarded the circulation and enfeebled the system, and which was actually the primary cause of death.

Treatment. Dropsy being only a symptom of various morbid conditions existing in the system, any treatment to be radically beneficial must, therefore, have reference to the diseased conditions upon which the dropsical effusion, in each individual case, depends. These are so various, and frequently so obscure, as to require the best diagnostic skill possessed by the experienced specialist, to detect them. There are, however, a few general principles which are applicable to the treatment of nearly all cases of dropsy. Nutritious diet, frequent alkaline baths to keep the skin in good condition and favor excretion through its pores, and a general hygienic regulation of the daily habits, are of the greatest importance. There are also a few general remedies which may prove more or less beneficial in nearly all cases. We refer to diuretics and hydragogue cathartics. The object sought in the administration of these is the evacuation of the accumulated fluids through the kidneys and bowels, thus giving relief. Of the diuretics, queen of the meadow, buchu and digitalis generally operate well. As a cathartic, the "Pleasant Pellets" accompanied with a teaspoonful or two of cream of tartar, will prove serviceable. Beyond these general principles of treatment it would be useless for us to attempt to advise the invalid suffering from any one of the many forms of dropsy. The specialist skilled by large experience in detecting the morbid condition which causes the watery effusion and accumulation, can select his remedies to meet the peculiar indications presented by each individual case. Sometimes the removal of the watery accumulation by tapping becomes necessary, in order to afford relief and give time for remedies to act. We have found it necessary to perform this operation very frequently in cases of *hydrocele*, and also quite often in cases of abdominal dropsy. The chest has also been tapped and considerable quantities of fluids drawn off, and this has been followed by prompt improvement and a final cure.

CASES TREATED

CASE I. A Canadian gentleman, aged 68, applied at the Invalids' Hotel and Surgical Institute, for examination and treatment. He had

been dropsical for over two years, and had become so badly affected as to be unable to lie down at night. His legs were so filled with water and enlarged as to render it almost impossible for him to walk, and there was a general anasarca. The least exertion was attended with the greatest difficulty of breathing. He had been under the treatment of several eminent general practitioners of medicine in Canada but found no relief. They were unable to discover the real cause of his ailment, but to the specialist who has charge of this class of diseases at our Institution, and who annually examines and treats hundreds of such cases, it was at once apparent that the dropsy was caused from a weakened condition of the heart, which rendered it unable to perform its functions. He was put upon a tonic and alterative course of treatment, which also embraced the use of such medicines as have been found to exert a specific, tonic action upon the muscular tissues of the heart. He improved so rapidly that in less than two months he was able to lie down and sleep soundly all night. The bloating disappeared, his strength improved, and in three months more he was discharged perfectly cured.

CASE II. A man, aged 35, single, consulted us for what he supposed to be enlargement of the testicles. The scrotum was as large as his head, and it was with difficulty that he could conceal the deformity from general observation. The disease was immediately recognized by the attending surgeon as hydrocele. The liquid was promptly drawn off by tapping, and a stimulating injection was made into the scrotum to prevent re-accumulation. We mention this case only because it is one among a very large number who have consulted us supposing that they were suffering from enlargement of the testicles, cancer, or some other morbid growth within the scrotum, when a slight examination has shown the affection to be hydrocele, a disease which is speedily cured by tapping, with a little after treatment. The operation is perfectly safe and almost entirely painless.

CASE III. A lady, aged 24, consulted us by letter, enumerating a long list of symptoms clearly indicating abdominal dropsy and suppression of the menses. A well-regulated hygienic treatment was advised, and medicines to restore the menstrual function by gradually toning up and regulating the whole system, were forwarded to her by express. After four months' treatment, perfect recovery resulted. Cases like this latter are very common and generally yield quite readily to proper management. No harsh or forcing treatment for restoring the menstrual function should be employed, as it will not only fail to accomplish the object sought, but it is also sure to seriously and irreparably injure the system. The most difficult cases which we have had to deal with, have been those which had been subjected by other physicians to the administration of strong emmenagogues in the vain effort to bring on the menses.

RHEUMATISM.

Prominent among constitutional diseases is the one known as *rheumatism*. It is due to streptococcus infection from tonsillitis, acute or chronic, or any toxic condition where the streptococcus germ is found—usually in pus, as in cases of tonsillitis, pyorrhea, infected gall bladder, chronic appendicitis, etc.

Rheumatism may be divided into (1) *Acute*, (2) *Chronic*, (3) *Muscular*.

Acute Articular Rheumatism. Acute articular rheumatism implies an affection of the articulations or joints. It usually commences suddenly; sometimes pain or soreness in

the joints precedes the disclosure of the disease. The symptoms are pain in the joints, tenderness, increased heat, swelling and redness of the skin. The pain varies in its intensity in different cases, and is increased by the movement of the affected parts. Swelling of the joints occurs, especially those of the knee, ankle, wrist, elbow, and the smaller joints of the hands and feet. The swelling and redness are generally in proportion to the acuteness of the attack. Acute articular rheumatism is accompanied with more or less fever. Sweating is generally a prominent symptom, being strongly acid and more profuse during the night. Appetite is impaired, tongue coated, bowels constipated, or there is diarrhea.

The Duration of this Disease. Unlike fevers, its course is marked by fluctuations; frequently after a few days the pain subsides, the fever disappears, and convalescence is apparently established, when, suddenly, all the symptoms are renewed with even greater intensity than before. This disease rarely proves fatal, unless the heart is involved.

Chronic Articular Rheumatism. Articular rheumatism, in the subacute or chronic form, is frequently observed in medical practice. The symptoms are pain and more or less swelling of the joints, although not of as grave a character as in acute rheumatism. There is frequently an absence of increased heat and redness. As in the acute form, the different joints are liable to be affected successively and irregularly until, after a time, the disease becomes fixed in a single joint, and the fibrous tissues entering into the ligaments and tendons are liable to be affected. The appetite, digestion and nutrition are often good, and in mild cases, patients are able to pursue their daily vocations. The disease is supposed to be the same as in the acute form, but milder, and, strange to say, more persistent. A diseased condition of the blood is supposed to be involved in both instances, but this morbid state is less extended, and, at the same time, more obstinate in the chronic than in the acute form. Subacute articular rheumatism is not always chronic, and may disappear in a shorter time than in the

acute form. Chronic articular rheumatism is not generally fatal, but there is danger of permanent deformities.

Muscular Rheumatism. This affection is closely allied to *neuralgia*, and may properly be called *myalgia*. It exists under two forms, acute and chronic. In acute muscular rheumatism, there is at first a dull pain in the muscles, which gradually increases. When the affected muscles are not used the pain is slight, and certain positions may be assumed without inducing it constantly; but in movements which involve contraction of the muscles the pain is very violent. In some cases, the disease is movable, changing from one muscle to another, but usually it remains fixed in the muscle first attacked. The appetite and digestion are often impaired, and there is no fever. The duration of this form of rheumatism varies from a few hours to a week or more.

In subacute or chronic muscular rheumatism, pain is excited only when the affected muscles are contracted with unusual force, and then it is similar to that experienced in the acute form. The chronic form is more apt to change its position than the acute. The duration of this form is indefinite. In both the acute and chronic forms some particular parts of the body are more subject to the affection than others.

The muscles on the posterior part of the *neck* are subject to rheumatic affection. It is termed *torticollis* or *cervical* rheumatism in such cases, and should be distinguished from ordinary neuralgia. When the muscles of the loins are affected, it is commonly known as *lumbago*. In case the thoracic muscles are affected, it is known as *pleurodynia*. In coughing, sneezing, and the like, the pain produced is not unlike that in pleuritis and intercostal neuralgia.

One of the most marked features of muscular rheumatism, is the cramp-like pain, induced by the movements of the affected muscles, whereas the pain is slight when those muscles are uncontracted. This feature is very serviceable in distinguishing muscular rheumatism, or myalgia, from neuralgic affections. Another trait which distinguishes muscular rheumatism from neuralgia, is that the former is characterized by great soreness, while the latter is not. There is also a distinction between inflammation of the muscles and muscular rheumatism. In the case of the former, there is continued

pain, swelling of the parts, occasional redness, and the presence of more or less fever, which conditions do not exist in the latter. Persons subject to rheumatism of the muscles, are apt to suffer from an attack, after exposure of the body to a draught of air during sleep, or when in a state of perspiration.

Treatment of Rheumatism. Administer the spirit vapor-bath to produce free perspiration, which should be maintained by full doses of the Compound Extract of Smart-Weed. The anodyne properties of the latter also prove very valuable in allaying the pain. In all these conditions the use of "Anuric Tablets" is of great benefit. Reference may be made to the writings of eminent medical authorities, quotations from whose works will give some idea of the extent to which they are used by the medical profession, and as to how satisfactorily they act in removing the diseased conditions that produce these painful maladies. The painful joints may be packed with wool or with cloths wrung from hot saleratus water, and the patient kept warm and quiet in bed. Inasmuch as the bowels must be called upon to remove a part of the poisonous matter, they should be kept loose by the use of one or two of Dr. Pierce's Pellets with each meal. Following the meal two of Dr. Pierce Anuric Tablets should be taken with a glass of water. The bowels must be kept loose with this treatment for several days, and it usually requires at least a week to get rid of the poisonous matter that is contained in the system, and which produces the discomfort and pain. In severe cases of pain we prescribe Anuric Tablets in doses of two or three every two or three hours. They should be taken with plenty of water and with such fruits as apples. The majority of cases yield quite promptly to the course of treatment already advised if it is persevered in. The disease, however, sometimes proves obstinate and resists for many days the best treatment yet known to the medical profession.

Diet has much to do with rheumatic condition, and we usually advise patients who suffer from these maladies to live mainly on foods that do not contain substances likely to produce highly acid and acrid poisons in the blood.

The highest medical authorities have revolutionized the erroneous opinions of the past. After a careful study of these diseases it has been found that hearty, frequent and well-chosen meals, with much bustling about in the open air, are absolute essentials to a cure.

DIET.

Use chicken, lamb, game, sweetbreads, brains and the more delicate fish, simply cooked and served without rich sauces. Oysters and clams may be taken. Fried dishes of all kinds should be avoided.

Avoid—Lobster and crabs, venison, mutton, goose, pork in all forms, and also heavy dark flesh of all kinds.

Of Vegetables, avoid tomatoes, cucumbers, and all salads that have a vinegar dressing; the weak stomach is busy manufacturing more powerful acids than the system can endure. Eat *lightly* of potatoes, except baked, dried beans or peas, and raw onions.

Indulge freely in raw apples, green beans and peas, carrots, turnips and well cooked greens. For all the starch the body needs, rice is worth all the bread, beans and potatoes put together.

Avoid—Strawberries and raw pears are not to be taken by the rheumatic, however wholesome they may be for others, and strange enough, where grape and orange juice will set a man's joints to throbbing, he can help himself safely and freely to lemon and lime juice.

There is healing quality in both lemons and limes and their juice should be used instead of vinegar.

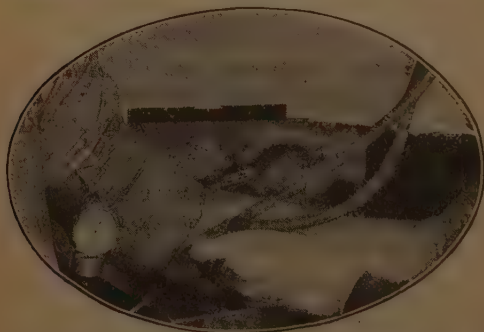
Avoid—In regard to sugar, it should be avoided in all forms. Candies should be strictly avoided.

Though a patient may eat large meals, if the stomach does not assimilate what is given it, such a patient is quite as poorly nourished as one who gets but a crust a day.

If the plan of treatment which we have given does not conquer the disease, we cannot better advise the invalid than to recommend him to employ a physician of well-known skill in the treatment of chronic diseases. If such a one is not accessible for personal consultation, a careful, written statement of all the prominent symptoms, may be forwarded to our specialists in this disease who will readily detect the real fault, in which the ailment has its foundation. A vial of urine, that which is first passed in the morning, should be sent with the history of the case, as chronic rheumatism effects characteristic changes in this excretion which clearly and unmistakably indicate the abnormal condition of the fluids of the body upon which the disease usually depends.

HIGH BLOOD PRESSURE

High Blood Pressure, like high temperature in fever, is a condition due to a poison in the blood.



Method of Auscultation, or *listening* to the pulse beat.

The irritation of this injurious substance going thru the arteries causes a thickening of the blood vessels.

As the canal becomes smaller, the heart tries to make up for the lack of size by pumping the blood

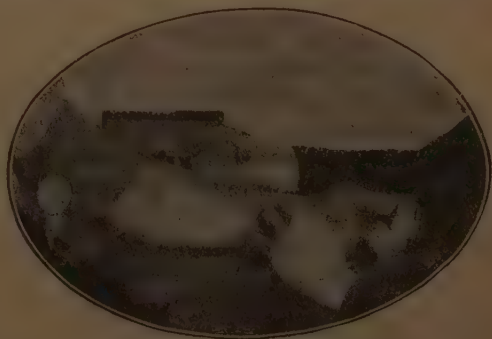
faster and with greater force.

The tissues must be fed with sufficient blood. The result of continued unnatural force is the rupture of small weak vessels—like those in the nose causing nose-bleed, or in the brain producing *a stroke*, apoplexy.

Blood pressure depends on the pump-like push of the left side or ventricle of the heart modified by (a) the elasticity of the arteries; (b) the resistance of the walls of the vessels; also in some degree by (c) the thinness or thickness of the blood and volume or quantity of it.

The highest pressure is caused at the time of the sudden, sharp contraction of the ventricle, the largest muscle of the heart.

This is called the *Systolic* pressure.



Method of Palpation, or *feeling* the pulse.

The lowest pressure is at the end of the relaxation or opening of the left ventricle and is called the *Diastolic* pressure.

The difference between the two is called the *Pulse pressure*.

SYMPTOMS:—Spells of unusual buoyancy of spirits—followed by periods of depression. As one sufferer has said in the early stage of this malady: “When I feel the best my blood pressure is highest.”

Dizziness, oppression, palpitation, pain in heart and down arms, shortness of breath on exertion, difficulty in breathing, kidneys inactive or over active, vertigo, faintness, arteries feel firm, cord like, full, often beaded.

Treatment. Increase the volume and thinness of the blood by the free use of water. Diminish the poisons in the blood, burn them up by breathing plenty of fresh air.

Lessen them by taking food that is easily and well digested, such as will not furnish poison.

Frequently empty the bowels with unirritating remedies such as Dr. Pierce’s Pleasant Pellets or castor oil to rid the system of fermenting poisons that would otherwise be absorbed and increase the trouble.

Dr. Pierce’s Golden Medical Discovery acts by increasing the expulsion of poisons in the blood.

Dr. Pierce’s Anuric Tablets act by neutralizing the poisons in the blood and expelling them thru the kidneys and liver. They also lessen fermentation and poisoning in the intestines by their increase of the flow of bile from the liver which is the natural antiseptic and laxative.

APOPLEXY

Patient with Habitus Apoplecticus. Obese.

Short neck type.

Not intended as diet during or immediately after attack.

Eat at regular times—three meals a day. Make the mid-day meal the principal meal of the day. Take small meals of solid foods. Between meals take no solid food, but in the middle of the afternoon or at bedtime, a cup of bouillon or other beverage may be taken.

One hour before each meal drink a glass of hot or cold water. Limit the amount of fluid taken with meals. Do not drink excessively.

Do not eat when hot or excited or after exertion.

Do not exert yourself immediately after eating.

Eat slowly — masticate food thoroughly.

TYPE MEALS

BREAKFAST: One egg, one piece of toast, glass of milk. Or, fruit (one piece), toast, weak coffee.

DINNER. White fish or meat (two chops or equal amount of steak).

Toast and butter (or scraped meat).

Light vegetable (such as cooked celery or puréed peas).

Plain custard or light pudding.

SUPPER. Ham, chicken or eggs.

Green vegetable.

Toast and butter.

Weak tea or fruit.

This brief sketch is intended to indicate the kinds of food which may be taken and the quantity which should be taken. In prescribing such a restricted and at the same time liberal diet, two essential factors have been taken into consideration:

- (1) The amount of food taken should be limited both as to quantity taken at a single time and the quantity taken during twenty-four hours. The intention is to underfeed and so keep down blood-pressure and at the same time reduce obesity.
- (2) The choice of viands must be of such a character that the patient will be willing to restrict himself to the dietary indefinitely. Therefore, a considerable degree of freedom is permitted (meat and proteids) because there is no advantage in prescribing for an individual a dietary at which he will rebel and which in all probability he will disregard.

ARTERIOSCLEROSIS

(See also page 655)

GENERAL PRINCIPLES OF DIET

The object of this diet is two-fold: (1) To improve metabolism by reducing the amount of concentrated foods and by increasing elimination; (2) to reduce body weight and prevent obesity.

The mainstays of the diet should be:

FRESH FRUIT. Apples, pears, peaches, oranges, cherries, melons, grape-fruit, etc.

VEGETABLES. Particularly pithy green vegetables (which by leaving a large residue, promote elimination), for example: spinach, cauliflower, cress, lettuce, string beans, green peas, artichokes, carrots, celery, squash, asparagus.

WATER. Should be taken abundantly; tea and coffee may be taken weak and only in limited quantity (or not at all); mineral water and buttermilk may be taken with benefit. Six glasses of all liquids should be taken during the day. Vegetable soups are permitted.

BREAD. Should be taken preferably stale and not in excessive quantities; toast and zwieback may be taken.

MEATS. Light meats, fish or chicken may be taken in limited amounts, but they should be prepared plain: broiled, boiled, baked or roasted.

EGGS. May be taken instead of meat.

Nothing can take the place of vegetables which leave a bulky residue.

The foods which should be taken only sparingly are the proteid foods in general, namely, meat and meat preparations; rich soups; milk and milk foods; sauces made with milk, cream sauces, sauces in general; rich fish, such as sardines, salmon; canned meats and fish; preserved meats and fish; smoked meats and fish; shell-fish, especially crabs, shrimps; cheese, except cottage cheese; potatoes, corn.

Sweets, pastries, pies, preserves, candies, confections, ices, rich cakes, French pastry, are better excluded.

All alcoholic, malt and sweet drinks should be avoided.

PRACTICAL CLASSIFICATION OF FOODS

EAT	LIMIT	AVOID
Chicken.	Butchers' meat.	Salt, preserved,
Fish with white	Tripe.	canned meat; shell-
flesh.	Sweetbreads.	fish, domestic duck;
Raw oysters.	Brains.	goose; salmon, sar-
Ham.	Game.	dines, mackerel;
Bacon.		salt, preserved,
		canned fish.
Eggs.		
Green vegetables,	Potatoes.	Onions, garlic, cu-
fresh or canned,	Sweet potatoes.	cumber.
raw or cooked.	Cauliflower.	Corn.
Salads.	Cabbage.	Sweet Pickles.
Pickles.		Condiments.
Cereals, rice.		
Fruit (fresh or		Bananas.
cooked), melons,		Sweetened fruits
berries.		and preserves.
Cottage cheese.		Old cheese.
		Cream cheese.
	Fats, oil, butter.	
Bread, toast, zwie-		
back, crackers.		
Pastes — macaroni,		
spaghetti.		
Water, mineral	Coffee, cocoa,	Alcoholics.
water, Tea, Butter-	chocolate, milk,	Sweet drinks.
milk. Vegetable	milk soups.	Rich soups.
soups.	Sugar, honey,	Nuts.
	molasses, syrup,	Pastries.
	plain cake, pud-	Pies.
	dings, custards,	Confections.
	ice cream.	Candies.

Cooked foods should be broiled, boiled, baked, roasted; not fried.

Avoid stews and made dishes, spices, gravies, condiments.

Drink water freely between meals.

Under-eat rather than over-eat.

Keep emunctories (excretory organs) active.

DIET LIST

MAY EAT

AVOID

MEATS AND FISH

Meat, poultry or fish once daily; plain fresh meats without sauces, without gravies and not highly seasoned; also ham, game, poultry, fresh fish.	Preserved, canned and spiced meats; tongue, goose, tame duck, kidneys, stews, salmon, shell-fish, mackerel, herring.
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VEGETABLES

Fresh vegetables, except onions, peppers, garlic, dried beans.	Peppers, onions, garlic, corn, cucumbers, cabbage.
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FRUITS

Fresh fruits, stewed fruits, berries.	Bananas, preserves, spiced fruits, sweetened fruits, pickled fruits.
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BEVERAGES

Water, mineral water, tea, milk, buttermilk, iced tea, cocoa, weak coffee once a day, lemonade.	Alcoholic drinks, malt drinks, sweet drinks.
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SUNDRIES

Bread, toast (not hot), zwieback, butter, salads (without oil), eggs, clear soup, plain cake, cottage cheese, tapioca, sago, all farinaceous foods, soups containing cereals, vegetable soups, pastes.	Pastry, pies, confections, spices, gravies, sauces, poulettes, all condiments, such as mustard, tabasco, etc.; cream soups, hot rolls, hot bread, hot biscuits.
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GENERAL SUGGESTIONS

Eat only three times a day, at regular meal times. Eat nothing between meals or at bedtime.

Do not drink more than one small glass of liquid with meals (this includes soup). One hour before each meal drink a glass of Vichy or other alkaline mineral water (or plain water). Drink water freely between meals.

Eat plain foods, simply prepared. Avoid all made dishes, sauces, poulettes, gravies and condiments. Do *not* eat meals of several courses. Rather under-eat than over-eat. Eat green vegetables, such as spinach, artichokes, asparagus, celery, string beans, peas; limit potatoes.

Avoid sweets, creams, desserts, sweetened cooked fruits and preserves; nuts, cakes. Eat fresh fruits—orange, apple, etc.

Avoid all preserved and canned meats.

Eat a limited amount of fresh fish with white flesh. *Avoid* all salt, preserved, canned fish, such as sardines, herring. *Avoid* all shell-fish, except raw oysters. Salads may be eaten (oil sparingly).

Drink water, tea, mineral water, buttermilk. *Avoid* alcoholics; limit coffee. Cereals may be taken.

Avoid strenuous exertion—long hours, excessive walks, mental excitement. Whenever possible avoid climbing stairs.

It is beneficial to lie down and rest for an hour or longer, after the midday meal.

TYPE MEALS AND RÉGIME

<i>Rise</i>	Rise and drink one glass of water.
<i>7 to 8 A. M.</i>	(If patient is of obese, florid type or if bowels are sluggish, add teaspoonful of Carlsbad or Epsom salts twice or three times a week).
<i>Breakfast.</i>	Cereal, (small portion), egg or fruit.
<i>8.30 A.M.</i>	One or two slices of toast. One cup weak coffee or cereal decoction.
<i>11 A. M.</i>	One glass water or still alkaline mineral water.
<i>Luncheon or Dinner.</i>	Light hot or cold meat, or poultry, or eggs or fish.
<i>12 to 1 P. M.</i>	Green vegetable. One or two slices stale bread or toast. Cottage cheese or fruit.
<i>1.30 to 3 P. M.</i>	If past middle age, the individual may advantageously rest.
<i>5 P. M.</i>	One glass of water or still alkaline mineral water.
<i>Dinner or Supper.</i>	Vegetable soup.
<i>6 to 7 P. M.</i>	Light meat, or poultry, or eggs or fish. Green vegetable. One or two slices stale bread or toast. Salad. Fruit or light pudding.

Water should be taken freely between meals.

Dinner may be eaten at noon: this would be the preferable time, but it may, as indicated, be eaten in the evening, in order to conform to custom.

Potatoes may be eaten sparingly, with dinner or supper.

Eggs are to be taken not more than once daily.

Gentle, out-door exercise; walking more or less briskly is commendable exercise, best before meals.

DISEASES OF THE SKIN.

ECZEMATOUS AFFECTIONS.

Ecematous affections constitute a very important class of skin diseases, the prominent characteristics of which are *eruption* and *itching*. They are progressive in character, passing through all the successive stages of development, from mere redness of the skin to desquamation, or thickening of the cuticle. The affections belonging to this group are *eczema*, *psoriasis*, *pityriasis*, *lichen*, *impetigo*, *gutta rosacea*, and *scabies*, or *itch*. A careful examination of each of these diseases shows it to be a modified form of eczema, and, therefore, they demand similar treatment.

Eczema. (*Humid Tetter*, *Salt-rheum*, *Running Scall*, or *Heat Eruption*.) The term *eczema* is used to designate the commonest kind of skin diseases.

In this disease, the minute blood-vessels are congested causing the skin to be more vascular and redder than in its natural state. There is an itching or smarting in the affected parts. The skin is raised in the form of little pimples or vesicles, and a watery lymph exudes. Sometimes the skin becomes detached and is replaced by a crust of hardened lymph, or it may be partially reproduced, forming *squamæ*, or scales. There are three stages of this disease; the inflammatory, accompanied by swelling, and the formation of pimples or vesicles; that of exudation, which is succeeded by incrustation; and that of desquamation, in which the skin separates in little scales and sometimes becomes thickened. Rarely, if ever, does the disease pass through these successive stages, but it is modified by its location and the temperament of the patient.

The many varieties of eczema are designated according to their predominating characteristics. Thus, when pimples or vesicles are abundant, it is termed, respectively, *eczema papulosum* and *eczema vesiculosum*, a fine illustration of which may be seen in Colored Plate I, Fig. 1. Again, when characterized by the eruption of pustules, it is termed *eczema pustulosum*, a representation of which may be seen in Plate I, Fig. 2; and, when the prominent feature is the formation of scales, it is termed *eczema squamosum*.

Eczema may be general or partial; in other words, the eruption may appear in patches or be distributed over the entire surface of the body. The latter form often appears in infants, but rarely occurs in adults. Two or more varieties of the eruption may be associated, or one form may gradually develop into another.

Infants and young children are peculiarly subject to this disorder, and, if the disease be not promptly arrested, it will assume the severest form and eventually become chronic. The muscles are soft, the eyes are dull and expressionless, and the little sufferer experiences the

Plate I

Fig. 1.



Fig. 2.



Fig. 3.

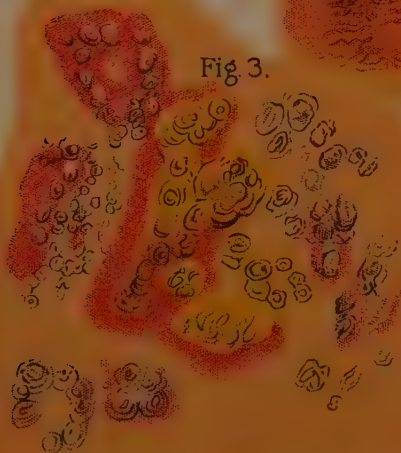
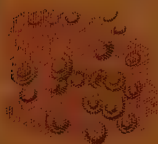


Fig. 5.



Fig. 4.



most excruciating torments. Frequently the whole body is covered with patches of eczema, the secretions are arrested, and, where the scales fall off, the skin is left dry and feverish.

Eczema has no symptoms proper, since the morbid feelings are due to constitutional debility, of which eczema is the result. The *signs* of eczema are redness, heat, an itching or smarting sensation, the formation of pimples or vesicles, exudation, incrustation, the separation of the cuticle into scales and a gradual thickening of the skin.

Causes. Three forms of constitutional derangement predispose the system to eczema; nutritive, assimilative, and nervous debility. In the former, there is a diminution of nutritive power, so that the patient becomes weak and emaciated. Assimilative debility is indicated by an impaired digestion and a consequent suppression, or an abnormal state of the secretions. Eczema occasioned by nervous debility, is accompanied by all the morbid conditions incident to irritation and exhaustion of the nervous system. Eczema may be excited by a violation of the rules of hygiene, as undue exposure, or sudden transition from heat to cold, deficient or excessive exercise, impure air, or improper clothing.

Psoriasis. Psoriasis may be defined as a *chronic form of eczema*. The transition of the last stage of eczema into psoriasis is indicated by a tendency of the inflamed, thickened, scaly skin to become moist when rubbed. It usually appears in patches on various portions of the body. The skin is parched and highly discolored. The hairs are harsh and scanty. The patient is constantly tormented by an unbearable itching sensation and, if the skin is rubbed, it exudes a viscous or sticky fluid. These are the characteristic signs of psoriasis. It generally appears on the flexures, folds and crooks of the joints, the backs and palms of the hands, the arms, and the lower portions of the legs.

Pityriasis. (*Branny Tetter, or Dandruff.*) This affection is a mild form of psoriasis, from which it may be distinguished by a more superficial congestion or inflammation of the affected parts, the absence of swelling, and the formation of smaller scales, having the form and appearance of *fine bran*. It generally appears on the scalp, sometimes extends over the face, and, in rare instances, affects the entire surface of the body. The signs peculiar to this disease are slight inflammation, itching, and the formation of minute scales.

Causes. Pityriasis is caused by nutritive debility, and is often associated with erysipelas, rheumatism, and bronchitis.

Lichen. (*Papular Rash.*) Lichen is a term used to designate an eruption of minute conical pimples, which are more or less transparent, red, and occasion great annoyance. The eruption is attended with a severe, hot, prickling sensation, as if the flesh were punctured with hot needles. The pimples contain no pus, but if opened, they exude a small quantity of blood and serum. This disease more frequently occurs between the ages of twelve and fifty, but occasionally appears

during dentition, when it is called "tooth rash." The lichen pimples are sometimes dispersed singly over the skin and gradually subside, forming a minute scale, corresponding in position with the summit of the pimple. When the pimples appear in clusters, there is a diffused redness in the affected part, and, if they are irritated, minute scabs will be formed. Lichen generally appears on the upper portion of the body, as on the face, arms, hands, back, and chest.

The various forms of lichen are designated according to their causes, signs, location, manner of distribution, and the form of the pimples.

Lichen Simplex is the simplest form of this disorder, and is indicated by the appearance of minute pimples, which, when the distribution is general, are arranged like the blotches of measles. Sometimes the eruption is local and bounded by the limits of an article of clothing, as at the waist. In eight or ten days, the cuticle separates into minute scales, which are detached and thrown off; but a new crop of pimples soon appears and runs the same course, only to be succeeded by another, and thus the affection continues for months and even years.

Lichen circumscriptus is an aggravated form of *lichen simplex*, and is characterized by a circular arrangement of the pimples. The circumference which marks the limit of the patch is sharply defined. This form of lichen usually appears on the chest, hips, or limbs, and is not unfrequently mistaken for ringworm.

Lichen strophulosus is a variety peculiar to infants. Dermatologists recognize several subdivisions of this species, but the general characteristics are the same in all. The pimples are much larger than in the other forms of lichen, of a vivid red color and the duration of the eruption is limited to two or three weeks.

Lichen urticatus is also an infantile affection and begins with inflammation, which is soon succeeded by the eruption. In a few days the pimples shrink, the redness disappears, and the skin has a peculiar bleached appearance. The eruption is attended by an intense itching sensation and, if the skin is ruptured, a small quantity of blood is discharged and a black scab formed. This variety of lichen is very obstinate and of long duration.

Lichen tropicus, popularly known as *prickly heat*, is an affection which attacks Europeans in hot climates. It is characterized by the appearance of numerous red pimples of an irregular form, distributed over those portions of the body usually covered by the clothing. It is attended with a fierce, burning, itching sensation, which is aggravated by warm drinks, friction of the clothing, and the heat of the bed. The eruption indicates a healthy condition of the system; its suppression or retrocession is an unfavorable symptom, denoting some internal affection such as deranged nutrition.

In *lichen planus*, as the term indicates, the pimples are flattened. There is no sensation of itching or formation of scabs. The pimples are solitary and have an angular base, and the fresh pimples formed

Plate II.

Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.



Fig. 12.



Fig. 13.



appear on the spaces between the former eruptions. This affection usually attacks some particular region, such as the abdomen, hips, or chest. Instances are recorded in which it has appeared on the tongue and the lining membrane of the mouth. Sometimes it appears in patches, but even then, the margin of each pimple can be discerned.

Lichen pilaris and *lividus* are modifications of lichen simplex, the former being so named to describe the location of the pimples, *i. e.*, surrounding the minute hairs which cover the body, especially the lower limbs. The term *lichen lividus* indicates the dark purplish hue caused by a torpid circulation and the consequent change of arterial into venous blood before leaving the pimples. *Lichen circinatus* is a modified form of *lichen circumscriptus*. The pimples in the center of the circular patch subside and a ring is formed which gradually increases in size. When the rings become broken or extend in regular forms, the affection is termed *lichen gyratus*.

Causes. Constitutional debility predisposes the system to this eruption. The exciting causes are irritation of the skin, strumous diathesis, dentition, and any violation of hygienic rules. Although lichen is not a fatal disease, yet it tends to reduce the vitality of the system.

Impetigo. (*Crusted Tetter* or *Scall*.) Impetigo is a term applied to an inflammation of the skin, more severe and energetic in its character than the preceding affection. We have found the predominating characteristics of eczema and lichen to be the presence of exudation in the former, and the absence of it in the latter.

Impetigo is marked by the formation of yellow pus, which raises the cuticle into pustules. There is a slight swelling, redness, and the pus gradually dries up, forming an amber-colored crust, a representation of which is given in Colored Plate I, Fig. 5. It soon falls, leaving the skin slightly inflamed, but with no scar. The pustules are sometimes surrounded by a cluster of smaller ones.

The varieties of impetigo are designated according to the distribution of the pustules. *Impetigo figurata*, is characterized by the appearance of large clusters upon an inflamed and swollen surface, generally upon the face, but sometimes upon the scalp. This form is represented in Colored Plate I, Fig. 4. In *impetigo sparsa* the pustules are scattered over the whole body.

Causes. The predisposing cause of impetigo is nutritive debility, and the exciting causes are irritation, impure air, and errors of diet.

Gutta Rosacea is a *progressive* disease, and its successive stages of development mark the several varieties, such as *gutta rosacea*, *erythematoso*, *papulosa*, *tuberculo**sa*, *pustulo**sa*, according as they are characterized by redness, pimples, tubercles, or pustules. This affection is attended with heat, itching, and throbbing. The pustules contain serous lymph, which exudes if the cuticle be broken, and forms a crust at the summit of the pustule.

This eruption often appears on the face of persons addicted to intemperate habits, and has thus received the name of "*rum blossom*."

Cause. It is essentially a chronic affection, and depends upon constitutional causes.

Scabies. (*Itch*.) This disease is characterized by a profuse scaliness of the skin, by an eruption of pimples, vesicles, and, in rare instances, of pustules. Its prominent feature is an intense itching, so aggravating that, in many instances, the skin is torn by the nails. Unlike other diseases of the skin, it is not due to inflammation, but is caused by animalculæ, or little parasites, termed by naturalists the *acarus scabiei*. This minute animal burrows in the skin, irritating it, and thus producing the scaliness and itching. The vesicles are comparatively few in number, and contain a transparent fluid. The pustules are only present in the severest forms or when the skin is very thin and tender. It is then termed *pustular itch*.

The parts usually affected are the hands, flexures of the joints, and the genital organs. Cases are recorded, in which scabies appeared upon the face and head, but they are of rare occurrence. The activity of the animalculæ, is modified by the vitality of the victim. In persons of a vigorous constitution, they will rapidly multiply, and, in a few days after their first appearance, will be found in almost every part of the body.

Scabies is not confined to any age or sex, but chiefly affects persons of filthy habits. This disease can only be communicated by contact, or by articles of clothing worn by an infected person. There are certain indications which predispose the system to infection, such as robust health, a hot climate, and uncleanness.

Treatment. In all the varieties of eczematous affections, except scabies, the treatment of which will hereafter be separately considered, remedies employed with a view to the removal of the constitutional fault are of the greatest importance. The eruption upon the skin is but a local manifestation of a functional fault, which must be overcome by alterative remedies. All the excretory organs should be kept active. To open the bowels, administer a full cathartic dose of Dr. Pierce's Pleasant Pellets. Afterwards they should be used in broken doses of one or two daily, in order to obtain their peculiar *alterative* effects. The use of Dr. Pierce's Golden Medical Discovery is also necessary to secure its constitutional remedial benefits. As a local corrective to relieve the itching and disagreeable dryness of the skin, add half an ounce of blood-root to half a pint of vinegar, steep moderately for two hours, strain and paint the affected parts once or twice daily with the liquid. Every night before retiring, apply glycerine freely to all the affected parts, or dissolve one drachm of oxalic acid in four ounces of glycerine and anoint the skin freely. The white precipitate ointment, obtainable at any drug store, is an excellent application in most forms of eczema. A tea, or infusion, of

black walnut leaves, applied as a lotion to the affected parts, has also proved beneficial. The surface of the body should be kept clean by frequent bathing, and thus stimulating its capillary vessels to healthy activity. The eczematous surfaces should not be bathed frequently, and never with harsh or irritating soaps. All varieties of eczematous affections, except scabies, are only temporarily relieved by external applications, while the *radical cure* depends upon a protracted use of alterative, or blood-cleansing medicines. Therefore, we would again remind the reader of the necessity of keeping the bowels regular, and removing all morbid taints of the blood and faults of the secretory organs by the persistent use of Dr. Pierce's Golden Medical Discovery.

The successful treatment of scabies, or common itch, generally requires only local applications, for the object to be obtained is simply the destruction of the little insects which cause the eruption. Happily, we possess an *unfailing specific* for this purpose. Numerous agents have been employed with success, but *Sulphur* enjoys the greatest reputation for efficacy, and, since it is perfectly harmless, we advise it for this class of disease. Take a quantity of pulverized sulphur and mix with sufficient vaseline or lard to make an ointment. Having first divested the body of clothing, anoint it all over freely, and rub the ointment thoroughly into the pores of the skin while standing before a hot fire. The application should be made at night before retiring, and the patient should wear woolen night-clothes or lie between woolen blankets. In the morning after the application, the patient should take a warm bath, washing the skin thoroughly and using *plenty of soap*. This treatment should be repeated two or three times to be *certain of a perfect eradication* of the disease. After this course of treatment, the wearing apparel as well as the bed-clothes should be thoroughly cleansed, as a precaution against a return of the disease.

Pruritus. This is a functional skin affection characterized by an intense itching or burning, which may be local or general. It is usually indicative of some constitutional disease. It is more frequent in the male sex than in the female, the proportion being roughly 95% in the former to 5% in the latter. Nearly all of its victims are either of a bilious temperament or are neurotic.

Its cure is accomplished by local treatment and a regulation of the habits. The diet should consist mainly of rice, farina, milk, fruits and vegetables. Meats, alcoholics and spices should be rigidly avoided. The intestines must be thoroly emptied each day and the entire skin rubbed with a flesh brush and cold salt water. Before the local application advised, the patient should take a cool salt water sitz bath of ten minutes' duration.

In cases of severe rectal itching, a daily rectal injection of one or two teaspoonfuls of the following is beneficial: Fluid extract of hamamelis, one ounce; fluid extract of ergot, two ounces; fluid extract of hydrastis, two drams; compound tincture of benzoin, two drams. Mix and shake well before using. Until the slight smarting which this occasions has gone, the patient should remain quiet. In addition, this ointment should be applied locally twice a day: Alumol, sixty grains; camphor, forty grains; vaseline, one ounce. The camphor is rubbed up fine and is added to the alumol and vaseline and mixed thoroly.

Cases that have resisted all other treatment have often yielded to this.

(Continued on page 444)

ERYTHEMATOUS AFFECTIONS.

The prominent features, eruption, and itching of *eczematous* affections are purely local. *Erythematous* affections are, however, remarkable for their symptoms of constitutional disorder. Each of these affections is preceded by intense febrile excitement and nervous debility. In brief, the local manifestations are simply signs of general internal disorders; hence, the treatment should be directed to the restoration of the system. This group includes *erythema*, *erysipelas*, and *urticaria*.

Erythema. A vivid and partial flushing of the face is produced by a superficial inflammation of the skin, termed *erythema*. There are many stages of this disease, from the instantaneous transient flush caused by emotional excitement, to the protracted inflammation and swelling of *erythema nodosum*.

The affection is characterized by a flush which is at first a bright vivid scarlet, but which changes to a deep purplish tint. There is a slight elevation of the skin, sometimes accompanied by itching. In the second stage of development, the flush subsides, the skin has a yellowish or bruised appearance, and a few minute scales are formed. In *erythema papulosum*, a fine representation of which is given in Colored Plate III, Fig. 18, there is an eruption of red pimples or pustules. The prominent feature of *erythema nodosum*, a variety of erythema which affects those portions of the skin exposed to the sun, is the appearance of a large swelling, usually lasting four or five days and attended by constitutional symptoms, such as nausea, fever, languor, and despondency. The disease is associated with the symptoms incident to a disordered nervous system and sometimes results fatally, in other cases, it terminates in melancholy and mania.

Causes. The predisposing causes of erythema are constitutional debility, changes of climate and temperature, and irritating food or medicines. Locally, it may be produced by friction and the heat of the sun.

Erysipelas. There are few adult persons in this country who have not, by observation or experience, become somewhat familiar with this disease. Its manifestations are both constitutional and local, and their intensity varies exceedingly in different cases. The constitutional symptoms are usually the first to appear, and are of a febrile character. A distinct chill, attended by nausea and general derangement of the stomach is experienced, followed by febrile symptoms more or less severe. There are wandering pains in the body and sometimes a passive delirium exists. Simultaneously with these symptoms the local manifestations of the disease appear. A red spot develops on the face, the ear, or other part of the person. Its boundary is clearly marked and the affected portion slightly raised above the surrounding surface.

Plate III.

Fig. 14.



Fig. 15.

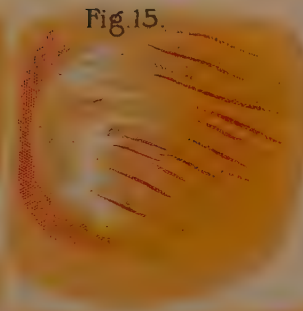


Fig. 16.



Fig. 20.

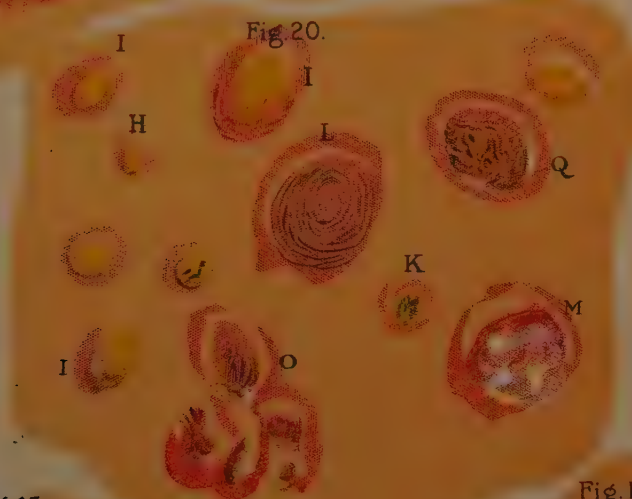


Fig. 17.

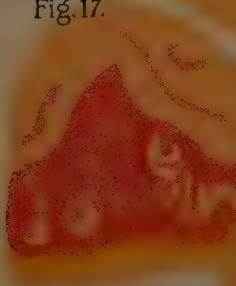


Fig. 18.

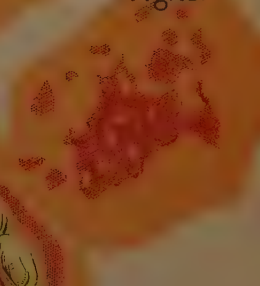
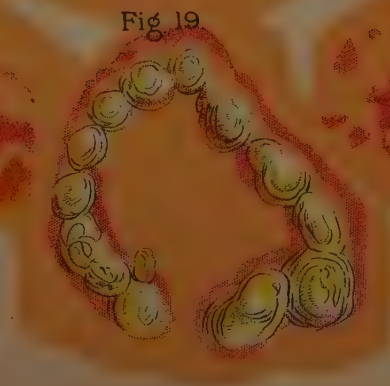


Fig. 19.



It is characterized by a burning pain and is very sensitive to the touch. It is not necessary for the information of the general reader that we should draw a distinction between the different varieties of this malady. The distinctions made are founded chiefly upon the *depth* to which the morbid condition extends, and not on any difference in the *nature of the affection*.

Suppuration of the tissues involved is common in the severer forms. Should the tongue become dark and diarrhea set in, attended with great prostration, the case is very serious, and energetic means should be employed to save life. A retrocession of the inflammation from the surface to a vital organ is an extremely dangerous symptom.

The disease is not regarded as contagious, but has been known to become epidemic.

Urticaria. (*Hives, or Nettle-Rash.*) This word is derived from *urtica*, signifying a nettle; it is a transient affection of the skin, indicated by a fierce, burning, itching sensation and a development of pustules, or white blotches of various forms. A representation of this eruption is given in Colored Plate III, Fig. 17. It is appropriately named nettle-rash, from its resemblance to the irritation caused by the sting of a nettle. There is the same sharp, tingling sensation and a similar white wheal or blotch, caused by the muscular spasm of the corium, a layer of the skin.

Urticaria may be either acute or chronic. Acute urticaria is always preceded by febrile symptoms and the attack is indicated by a sudden congestion of the skin, followed by a slight swelling or elevation of the affected part. When the congestion subsides, the skin has a bruised appearance. In chronic urticaria, the febrile symptoms are absent.

Causes. The exciting causes of urticaria are gastric disorder, irritation of the mucous membrane, or a sudden nervous shock. The predisposing causes are conceded to be assimilative and nervous debility. Hence, it frequently accompanies purpura or land scurvy and rheumatism. The skin in some persons is so susceptible to irritation that urticaria can be kindled at any moment by excitement, as an animated conversation, or by the simple pressure of the hand.

Treatment. The proper treatment for simple erythema consists in applying to the affected parts a little lime-water, or sweet-oil, or glycerine, with the use of warm baths and mild cathartics. This is generally sufficient to effect a cure, if followed up with the persistent use of Dr. Pierce's Golden Medical Discovery taken three times a day.

In *erysipelas* a hot bath, with warm, sweating teas, or, better still, Dr. Pierce's Compound Extract of Smart-weed may be given to favor sweating. The whole person should be frequently bathed with warm water rendered alkaline by the addition of saleratus or soda. The bowels should be moved by full doses of the "Pleasant Pellets." Fluid extract of *veratrum viride*, in doses of a drop or two every hour, will

best control the fever. The specific treatment, that which antidotes the poison in the blood, consists in administering fifteen-drop doses of the tincture of the muriate of iron in one teaspoonful of the "Golden Medical Discovery," every three hours. As a local application, the inflamed surface may be covered with cloths wet in the mucilage of slippery elm. A preparation of equal parts of sweet oil and spirits of turpentine, mixed and painted over the surface, is an application of great efficacy.

For *urticaria*, the "Pleasant Pellets" should be administered in sufficient doses to move the bowels, the skin bathed with warm water rendered alkaline by the addition of common baking soda or saleratus, and, if there be any febrile symptoms, a little tincture of aconite or veratrum may be administered in one drop doses once each hour. In the chronic form of the disease, the diet should be light, unstimulating, and easily digested, the skin kept clean by frequent bathing, and fresh air and outdoor exercises freely taken. The somewhat protracted use of Dr. Pierce's Golden Medical Discovery will result in the greatest benefit in this form of disease.

BULLOUS AFFECTIONS.

The distinguishing feature of this group of cutaneous affections is the formation of *bullæ*, or blebs, which are defined as "eminences of the cuticle, containing a fluid."

Herpes is an inflammation of the skin in which the eruption appears in patches of a circular form. On the second day, minute, transparent vesicles appear and gradually develop, becoming opalescent. On the succeeding days, they shrink and produce reddish brown scabs, which soon become hard and fall off, leaving deep, purplish pits. In adults, these vesicles sometimes terminate in painful ulcers, caused by an irritation of the eruption. By some practitioners, herpes is regarded as a purely nervous disorder, from the fact that it is frequently accompanied by severe neuralgic pains. These pains are not *constant*, but *occasional*, and do not appear at any definite stage of the disease. Sometimes they precede and accompany the eruption. Other instances are recorded in which they remained many years after the disease had disappeared. The local and constant pain of herpes is a severe burning, prickling, itching sensation, which remains after the scabs fall.

The three *general* forms of this disease are *herpes zoster*, *phlyctænodes* and *circinatus*.

In *herpes zoster*, or *shingles*, the clusters of vesicles encircle one-half of the body, frequently at the waist; hence, it has received the name of *zona* or *girdle*. The vesicles often develop into bullæ, and sometimes ulcerate. In *herpes phlyctænodes*, the vesicles are small, round, and irregularly distributed over the face, neck, arms, and breast. This form is accompanied by febrile symptoms and offensive excretions.

The various forms of herpes are represented in Color Plate I, Fig. 3.

Causes. Simple herpes is not contagious. It is caused by vicissitudes of heat and cold, violent emotions, excessive exertion, irritation of the skin, and a general atony of the system.

Miliaria is the name given to an eruption of vesicles which are larger than those of eczema, but smaller than the bullæ of herpes. At first, the serum contained in the vesicles is perfectly transparent, and reflects the red tint of the underlying skin, hence the name *miliaria rubra*. But gradually it becomes milky and opalescent, hence, the term *miliaria alba*. The vesicles of miliaria are generally solitary, and appear on those portions of the body most liable to become heated and to perspire. The eruption is preceded by chills, languor, slight fever, intense thirst, a sharp prickling sensation of the skin, and profuse perspiration. The vesicles soon desiccate, and are replaced by a new crop.

Causes. Miliaria is almost universally an accompaniment of febrile disease, and all disorders in which there occurs a profuse perspiration. The causes to which it may be traced in each instance are improper diet, impure air, burdensome clothing, or strong emotions.

Pemphigus is a peculiar eruption which appears upon the limbs and abdomen. The affected part is of a bright red color, and, in a few hours, small vesicles appear containing a transparent fluid. The vesicles soon develop into bullæ, entirely covering the inflamed portion. The fluid becomes opaque and in a few hours escapes. The patch is then covered with a yellow scab. Pemphigus may be either acute or chronic. The acute form is subdivided according to the degree of inflammation, as *pemphigus pompholyx* in which it is severe, and *pemphigus benignus*, when it is mild. The bullæ of pemphigus are illustrated in Colored Plate III, Fig. 19.

Cause. Pemphigus is always caused by a vitiated state of the system.

Rupia is indicated by an eruption as large as a chestnut containing a watery fluid, which desiccates into a yellowish-brown crust. A fine representation of rupia vesicles in both stages of development, is given in Colored Plate II, Fig. 13.

Treatment. In all forms of herpes, the administration of a small dose of Dr. Pierce's Pleasant Pellets, with the use of his "Golden Medical Discovery" in one to two teaspoonful doses three times a day, will be followed by the happiest results. The skin should be kept clean by the use of the sponge-bath, rendered alkaline by the addition of common baking soda or saleratus. The portion of the body covered by the eruption should be bathed with a solution of sulphate of zinc, one ounce to a pint of water.

Miliaria is generally associated with certain febrile diseases, and its proper treatment consists in overcoming the febrile and other constitutional symptoms which accompany the disease. A hot foot-bath and small doses of tincture of aconite, say one drop in water each hour, will suffice to remove the fever. If the stomach and bowels are in a vitiated condition, as they are apt to be, a mild cathartic dose of "Pellets" should be given.

The treatment of *pemphigus* should consist in frequent alkaline sponge-baths, and in covering the affected parts with poultices of slippery elm, which should be kept moist with vinegar. The constitutional treatment should embrace the persistent use of the "Golden Medical Discovery." When the disease occurs in children, it is most generally dependent upon deficient nutrition, and special attention should be given to the diet of the patient, which should be nutritious. Fresh air and outdoor exercise ought not to be neglected.

The proper treatment of *rupia* does not differ from that suggested for *pemphigus*.

NERVOUS AFFECTIONS OF THE SKIN.

In nervous affections of the skin, the natural sensibility may be increased, diminished, or perverted. These morbid impressions arise from the nervous system. Although there are several varieties of these affections, yet, being of minor importance, we shall omit their consideration and only speak of one of them in this work.

Prurigo affects the entire surface of the body and imparts to the skin a parched, yellowish appearance. It is characterized by pimples, and an intense burning, itching sensation. Rubbing and scratching only irritate the skin, which becomes covered with thin black scabs. A good representation of *prurigo* may be seen in Colored Plate II, Fig. 6. The itching sensations are sometimes caused by chilling the body, by violent exercise, and heat; allowing the mind to dwell upon the affection aggravates it. *Prurigo* is recognized under two forms; *vulgaris*, which is a mild form, and *senilis*, which chiefly occurs in old age, and is more severe. The external genital parts of females are frequently affected with this disease, and it is aggravated by menstruation and uncleanness.

This affection may be due to a vitiated condition of the blood, and is common among those who are greatly debilitated. It is frequently occasioned by uncleanness, intemperance, the use of unwholesome food, or by an impure atmosphere.

Treatment. To allay the itching, take glycerine, one ounce, add to it one drachm of *sulphite* of soda, and one ounce of rose-water, and apply this to the affected parts. A solution made with borax, two drachms, and morphine, five grains, dissolved in six ounces of rose-water, makes an excellent lotion to allay the itching. If the disease

be severe, it will be necessary to correct the vitiated condition of the blood by a protracted use of Dr. Pierce's Golden Medical Discovery, and to aid its effects, give one "Pleasant Pellet" every day, not to operate as a cathartic, but only to exert an alterative influence.

ALPHOUS AFFECTIONS.

(SCALY SKIN DISEASES.)

Differences of opinion exist with regard to the proper classification of these affections. We shall briefly consider *alphos*, which is sometimes confounded with *lepra*.

Alphos, which from its Greek derivation signifies *white*, is characterized by circular, slightly raised white spots. These eruptions vary in size from one line to two inches in diameter, and may be scattered over the entire surface of the body, although they most frequently appear upon the elbows and knees. Alphos may consist of a single tubercle, or of large clusters constituting patches. The scales vary in color and thickness. In Colored Plate III, Figs. 14 and 15, are fine illustrations of alphos. When a person begins to recover from this affection, the scales fall off, leaving a smooth red surface, which gradually returns to its natural color.

This disease is more liable to occur in winter than in summer, although in some cases the reverse holds true. It may disappear for a time, only to return again with renewed vigor. It is not regarded as contagious.

Treatment. Thorough and protracted constitutional treatment is required to overcome this disease. Dr. Pierce's Golden Medical Discovery should be taken internally and also applied locally to the affected parts. To every other bottle of the "Discovery" which is taken, one-half ounce of the iodide of potash may be added. One or two of the "Pellets" taken daily will prove a useful adjunct to the "Discovery."

Locally, we have sometimes applied a lotion made of oxide of zinc, one-half drachm; benzoic acid, two drachms; glycerine, two ounces. Tincture of the chloride of iron, one drachm in one ounce of glycerine, makes an excellent local application. Whatever the local treatment may be, however, we chiefly rely upon the *persistent* use of the best alteratives, or blood-cleansing medicines.

AFFECTIONS OF THE HAIR-FOLLICLES.

Favus (*Scald Head*) is a disease peculiar to the hair-follicles, and is indicated by the formation of small yellow crusts, having the form of an inverted cup. The eruption has a very offensive odor. When it appears in isolated cups, it is termed *favus dispersus*, but it often occurs in large clusters, as represented in Colored Plate II, Fig. 12,

and is then termed *favus confertus*. It generally affects the scalp, but sometimes extends to the face and neck.

Cause. Favus is caused by nutritive debility, which results in a perverted cell-growth.

Sycosis (*Barber's Itch*) is an inflammatory affection of the hair follicles of the face. The prominent features of the disease are redness and the formation of scales. It is peculiar to males. It has received various names, according to its predominating characteristics, such as *sycosis papulosa*, *tuberculosa*, and *fungulosa*. Colored Plate II, Fig. 10, is a fine illustration of sycosis as it appears on the cheek.

Causes. Various causes induce the appearance of sycosis. The general causes are nutritive debility, vicissitudes of heat and cold, and an exhausted state of the nervous system. It may also result from various chronic diseases, such as syphilis and dyspepsia.

Comedones, or *grubs*, are due to a retention of the sebaceous matter in the follicles. The sebaceous substance undergoes a change, becoming granular and somewhat hardened. It gradually extends to the mouth of the follicle, where it comes in contact with the atmosphere, and assumes a dark color, as represented in Plate II, Fig. 8. This fact, together with its peculiar form when squeezed out of the skin, has caused it to be termed *grub*. They often appear in great numbers on the face of persons whose circulation is not active, or those who are of a particularly nervous temperament. Stimulating baths and friction will prove very efficacious in removing these cylinders of sebaceous matter. If they are allowed to remain, they will produce an irritation of the skin causing an inflammatory disease known as *acne*, or *stone-pock*.

Acne or Stone-pock. In the earliest stage of congestion, *acne* is characterized by minute hardened elevations of the skin, as shown in Plate II, Fig. 9, and is termed *acne punctata*. As the affection progresses, a bright red pimple, Plate II, Fig. 11, appears, having a conical form, hence the name *acne coniformis*. The pimple develops into a pustule containing yellow "matter," and is then known as *acne pustulosa*. This is followed by a thickening of the tissues, termed *acne tuberculata*. When the thicker skin is removed, it leaves a deep scar, hence the term *acne indurata*.

Causes. The remote cause of *acne* is nutritive debility. The immediate causes are rapid growth, anæmia, improper food, errors of hygiene, mental exhaustion, and various chronic diseases.

Treatment. The treatment of favus or scald-head should be commenced by shaving the hair off close to the scalp and washing the head thoroughly with soap and water. In some severe cases, it may be necessary to soften the incrustations with poultices, following these with a free use of soap and water. Having thus exposed the scalp and thoroughly divested it of incrustations, apply to it the ointment of iodide of sulphur, which may be procured at any good drug store. It

should be gently rubbed over the parts night and morning. The scalp ought to be kept perfectly clean throughout the treatment. Instead of the foregoing, the following may be applied: Take oxalic acid, ten grains; creosote, twenty drops; water, two ounces; mix. Half an hour after using this lotion, anoint the head freely with butter or lard; it will add greatly to the efficacy of the treatment. But while local applications will relieve many skin diseases and mitigate suffering, we cannot too strongly impress upon the minds of our readers the importance, in this as in all other chronic diseases of the skin, of perseverance in the use of the best alteratives. In this class of agents Dr. Pierce's Golden Medical Discovery stands pre-eminent. Its efficacy may be increased in this disease by adding to each bottle one ounce of the acetate of potash, and, when thus modified, it may be administered in the same manner as if no addition had been made to it.

The Treatment of Sycosis should be essentially the same as that suggested for favus, and it will result in prompt relief.

Treatment of Acne. In the treatment of this, as in that of other diseases, we should seek to ascertain the cause, and, when possible, remove it. Outdoor exercise, a spare, unstimulating diet, and perfect cleanliness are of the first importance. The affected parts should be bathed with warm water and Castile, or, what is better, carbolic soap. Washing in cold water generally aggravates the disease. As a local application to the pustules, we have used with good results the following lotion: Zinc Oxide, four drams; Calomine (pink) one and one-half drams; Glycerine, six drams; Lime Water, quantity sufficient to make eight ounces. Mix. Shake the bottle before using, and dab on with a soft cloth or bit of cotton, three or four times a day. First having washed the affected parts thoroughly.

Our chief reliance, however, as in the preceding diseases, should be upon the persistent use of alteratives and mild cathartics or laxatives, such as Dr. Pierce's Pleasant Pellets, Cascara or Milk of Magnesia.

FURUNCULAR AFFECTIONS.

(BOIL-LIKE AFFECTIONS.)

Under this head properly belong boils, carbuncles, and styes.

Boils. These annoying affections are hard, prominent, circumscribed, inflamed, suppurating tumors, having their seat in the cellular tissue beneath the skin. They vary in size from a pea to a hen's egg, and may occur on any part of the body. The color of a boil varies from deep red to mahogany. It is painful, tender, advances rapidly to maturity, becomes conical, and finally bursts and discharges bloody "matter." Through the opening, and filling the cavity, may be seen a piece of sloughing cellular tissue which is called the *core*. In from four to fifteen days, it is all expelled and the sore rapidly heals. The causes are an impure condition of the blood, which generally arises from imperfect action of the liver or kidneys.

Treatment. Spirits of turpentine applied to a boil in its earliest

stage will almost always cause it to disappear; but when suppuration has commenced it should be favored by the application of poultices. Next, purify the blood to prevent subsequent returns to other parts of the body. For this purpose take Dr. Pierce's Golden Medical Discovery. One or two "Pleasant Pellets" each day will be of benefit.

CARBUNCLE. (ANTHRAX).

These are more violent, larger, and more painful than boils, which they resemble. They may spring from several small pimples which extend deep into the tissues, and on the surface frequently several small vesicles appear and break. They may discharge, through one or several openings, a thin acrid, bloody, or dark-colored fluid. They most frequently appear upon the back of the neck, back, back part of the limbs, and under the arms. Their presence is evidence of a depressed condition of vitality. These tumors vary in size from one-half an inch to six inches in diameter, and rapidly proceed to a gangrenous condition, a grayish slough being detached from the healthy tissue.

Treatment. Invigorate the system by every possible means. The bitter tonics, such as Golden Seal, Gentian, or Willow, together with quinine and iron should be used. Nutritious diet, pure air, etc., are necessary. Purify the blood to remove the causes of the disease. For this purpose, give the "Golden Medical Discovery" in as large doses as can be borne without acting too freely on the bowels. Anodynes may be necessary to overcome the pain. Poultices are useful to encourage the separation of the dead from the living tissues. Antiseptic dressings are beneficial, of which carbolic acid is to be preferred; yeast, however, may be employed.

Sometimes powerful caustics or free incisions are productive of gratifying results, if followed by appropriate dressings, but these extreme measures should only be resorted to by the direction of a physician.

For a considerable time after the urgent symptoms have subsided, the "Golden Medical Discovery" should be used, to purify and enrich the blood, and the bitter tonics and iron may be alternated with it, or be used conjointly to good advantage.

Pruritus.

(Continued from page 435)

In every case of pruritus, without exception, a careful analysis of the urine should be made, for it should always be remembered that one of the early symptoms of diabetes is skin itching. When this is the case, its intensity varies with the proportion of the sugar in the blood. Though the above treatment will be useful in diabetic cases, the itching cannot be conquered until the system is rid of the sugar. One who suffers from this disease should be treated by a physician who understands the management of diabetic troubles. Write the specialists at Dr. Pierce's Invalids' Hotel.

Rectal Pruritus in children would lead one to suspect the existence of worms and to apply the necessary remedies; for example, a rectal injection of a cold infusion of quassia chips at night, followed by a dose of Dr. Pierce's Pleasant Pellets in the morning as a laxative.

SCROFULA

LIKELY A FORM OF TUBERCULOSIS

It is estimated that about one-fifth of the human family are afflicted with scrofula. A disease so prevalent and so destructive to life, should enlist universal attention and the best efforts of medical men, in devising the most successful treatment for its cure. It varies in the intensity of its manifestation, from the slightest eruption upon the skin (scrofulous eczema), to that most fatal of maladies, pulmonary consumption.

The Scrofulous Diathesis. The existence of a certain disposition or habit of body, designated as the *scrofulous* or *strumous diathesis*, is generally recognized by medical practitioners and writers as a constitutional condition predisposing many children to the development of this disease. Enlargement of the head and abdomen, fair, soft and transparent, or dark, sallow, greasy or wax-looking skin, and precocious intellect are supposed to indicate this diathesis.

The characteristic feature of this disease, in all the multifarious forms that it assumes, is the formation of tubercle, which, when the malady is fully developed, is an ever-present and distinguishing element.

Tuberculous is therefore almost synonymous with *scrofulous*, and to facilitate an acquaintance with a large list of very prevalent maladies, we may generalize, and classify them all under this generic term. As *tubercle* is frequently spoken of in works treating on medicine and surgery, playing, as it does, a conspicuous part in an important list of diseases, the reader may very naturally be led to inquire :

What is Tubercle? As employed in pathology, the term is usually applied to a species of degeneration, or morbid development of a pale yellow color, having, in its crude condition, a consistence analogous to that of pretty firm cheese. The physical properties of tubercle are not uniform, however. They vary with age and other circumstances. Some are hard and calcareous, while others are soft and pus-like. The color varies from a light yellow, or almost white, to a dark gray.

It is almost wholly composed of albumen united with a small amount of earthy salts, as phosphate and carbonate of lime, with a trace of the soluble salts of soda.

The existence of tubercular deposits in the tissues of the body, which characterizes scrofula, when fully developed, must not, however, be regarded as the primary affection. Its formation is the result of disordered nutrition. The products of digestion are not fully elaborated, and pass into the blood imperfectly, in which condition they are unable to fulfill their normal destiny—the repair of the bodily tissues. Imperfectly formed albuminous matter oozes out from the blood, and infiltrates the tissues, but it has little tendency to take on cell-forms

or undergo the vital transformation essential to becoming a part of the tissues. Instead of nutritive energy, which by assimilation produces perfect bodily textures, this function, in the scrofulous diathesis, is deranged by debility, and there is left in the tissues an imperfectly organized particle, incapable of undergoing a complete vital change, around which cluster other particles of tubercular matter, forming little grains, like millet seed, or growing, by new accretions of like particles, to masses of more extensive size. As tubercle is but a semi-organized substance, of deficient vitality, it is very prone to disintegration and suppuration. Being foreign to the tissues in which it is embedded, like a thorn in the flesh, it excites a passive form of inflammation, and from lack of inherent vital energy it is apt to decompose and cause the formation of pus. Hence, infiltration of the muscles, glands, or other soft parts with tuberculous matter, when inflammation is aroused by its presence, and by an exciting cause, give rise to abscesses, as in lumbar or psoas abscesses. When occurring in the joints, tubercles may give rise to chronic suppurative inflammation, as in white swellings and hip-joint disease. Various skin diseases are regarded as local expressions of, or as being materially modified by, the scrofulous diathesis, as eczema, impetigo, and lupus. The disease popularly known as "*fever-sore*" is another form of scrofulous manifestation, affecting the shafts of the bones, and causing disorganization and decay of their structure. Discharges from the ear, bronchitis, chronic inflammation of the intestinal mucous membrane, and chronic diarrhea are frequently due to scrofula, while pulmonary consumption is unanimously regarded as a purely scrofulous affection. Scrofula shows a strong disposition to manifest itself in the lymphatic glands, particularly in the superficial ones of the neck. The most distinguishing feature of this form of the disease is the appearance of little kernels or tumors about the neck. These often remain about the same size, neither increasing nor diminishing, until finally, without having caused much inconvenience, they disappear. After a time these glands may again enlarge, with more or less pain accompanying the process. As the disease progresses, the pain increases, and the parts become hot and swollen. At length the "*matter*" which has been forming beneath, finds its way to the surface and is discharged in the form of thin pus, frequently containing little particles or flakes of tubercular matter. During the inflammatory process there may be more or less febrile movement, paleness of the surface, languor, impaired appetite, night sweats, and general feebleness of the system. The resulting open ulcers show little disposition to heal.

Symptoms. There is a train of symptoms characteristic of all scrofulous disease. The appetite may be altogether lost or feeble, or in extreme cases, voracious. In some instances there is an unusual disposition to eat fatty substances. The general derangement of the alimentary functions is indicated by a red, glazed, or furrowed appearance of

the tongue, flatulent condition of the stomach, and bloated state of the bowels, followed by diarrhea or manifesting obstinate constipation. Thirst and frequent acid eructations accompany the imperfect digestion. The foul breath, early decay of the teeth, the slimy, glairy stools, having the appearance of the white of eggs, and an intolerable fetor, all are indicative of the scrofulous tendencies of the system.

Causes. Scrofula may be attributed to various causes. Observation has shown that ill-assorted marriages are a prolific source of scrofula. Both parents may be not only healthy, and free from hereditary taints, but robust, well-formed physically, perfectly developed, and yet not one of their children be free from this dire disease. It may present itself in the form of hip-disease, white swelling, "fever-sore," suppurating glands, curvature of the spine, rickets, ulcers, pulmonary consumption, or some skin disease, in every case showing the original

perversion of the constitution and functions. Scrofula is hereditary when the disease, or the diathesis which predisposes to its development, is transmitted from one or both parents who are affected by it, or who are deficient in constitutional energy, showing feeble nutrition, lack of circulatory force, and a diminished vitality. All these conditions indicate that a few exposures and severe colds are often sufficient to produce a train of symptoms, which terminate in pulmonary or other strenuous affections. Whatever deranges the



Fig. 1.—A Scrofulous Tumor.

function of nutrition is favorable to the development of scrofula, therefore, irregularities and various excesses tend to inaugurate it.

Scrofula may be the consequence of insufficient nourishment, resulting from subsisting upon poor food, or a too exclusively vegetable diet, with little or no animal food.

Want of exercise and uncleanness contribute to its production. It is much more prevalent in temperate latitudes, where the climate is variable, than in tropical or frigid regions. The season of the year also greatly influences this disease, for it frequently commences in the winter and spring, and disappears again in the summer and autumn months.

Treatment. The skin should be kept clean by means of frequent baths. These assist the functional changes which must take place on the surface of the body, permit the stimulating influence of the light

and air, and facilitate the aeration of the blood, as well as the transpiration of fluids through the innumerable pores of the skin. All exposure to a low temperature, especially in damp weather, and the wearing of an insufficient amount of clothing should be avoided. Then the food should be generous and of the most nourishing character. Steady habits and regular hours for eating and sleep must be observed, if we would restore tone and regularity to the functions of nutrition. Moderate exercise in the open air is essential, in order that the blood may become well oxygenated, that the vital changes may take place. It is no doubt true that the occasion of the prevalence of scrofula among the lower classes may be ascribed to frequent and severe climatic exposures, irregular and poor diet, or want of due cleanliness. Every well-regulated family can avoid such causes and live with a due regard to the conditions of health. The proper treatment of scrofula is important, because we meet with its symptoms on every side, showing its slow action upon different parts of the body and its influence upon all the organs. After this disease has been existing for an indefinite length of time, certain glands enlarge, slowly inflame, finally suppurate, and are very difficult to heal. These sores are very liable to degenerate into ulcers. All of these symptoms point to a peculiar state of the blood, which continually feeds and strengthens this morbid outbreak. All authors agree that the blood is not rich in fibrinous elements, but tends to feebleness and slow inflammation, which ends in maturation. Thus we may trace back this low and morbid condition of the blood to debility of the nutritive organs, defective digestion, which may be induced by irregular habits, a lack of nourishing food, or by the acquirement of some venereal taint.

The matter that is discharged from these glands is not healthy, but is thin, serous, and acrid ; a whey-like fluid containing little fragments of tuberculous matter, which resembles curd. The affected glands ulcerate, look blue and indolent, and manifest no disposition to heal. We have thus traced this disorder back to weak, perverted, and faulty nutrition, to disordered and vitiated blood, the products of which slowly inflame the glands, which strain out unhealthy, irritating, poisonous matter. The medicines to remedy this perverted condition of the blood and fluids must be alteratives which will act upon the digestive organs and tone the nutritive functions, thus enriching and purifying the blood. As this affection is frequently a complication in chronic diseases, it is eminently proper for us to refer to a few considerations involved in its general treatment.

An alterative medicine belongs to a class which is considered capable of producing a salutary change in a disease, without exciting any sensible evacuation. In scrofula, remedies should be employed which will improve digestion and also prevent certain morbid operations in the blood.

It is well known to medical men that nearly all medicines belonging

to the class of alteratives, are capable of solution in the gastric and intestinal secretions, and pass without material change, by the process of absorption, through the coats of the stomach and intestines, as do all liquids, and so gain an entrance into the general circulation; that these same alteratives act locally to tone and strengthen the mucous surfaces, and thus promote and rectify the process of digestion before being absorbed; that alterative medicines, when in the blood, must permeate the mass of the circulation, and thus reach the remote parts of the body and influence every function; that these medicines, while in the blood, may combine with it, reconstruct it, and arrest its morbid tendencies to decomposition.

We should use those alteratives which give tone to the digestive and nutritive functions, in order to curtail the constant propagation of scrofula in the system; which alter and purify the blood through the natural functions, thus reconstructing it; and which check the septic, *disorganizing* changes which are evinced by the irritating and poisonous matter discharged from the ulcers.

These are the three ways in which medicines operate upon the nutritive functions and the blood.

An alterative which is useful in these disorders is Dr. Pierce's Golden Medical Discovery. It works out peculiar processes in the blood, not like food, by supplying merely a natural want, but by strengthening the nutritive functions and counteracting morbid action, after which operations it passes out of the system by excretion.

From what has been said upon the importance of blood medicines and their modes of action, the reader must not infer that we account for all diseases by some fault of the humors of the body, for we do not. But that scrofula, in its varied forms, results from imperfect nutrition and need of fresh air is now universally conceded. For this reason neither time nor pains have been spared in perfecting an alterative, tonic, nutritive, restorative compound, to which Dr. Pierce has given the name of "Golden Medical Discovery." Not only is it an alterative and a nutritive restorative, acting upon the secretions, but it opposes putrefaction and degenerative decay of the fluids and solids. Hence its universal indication in scrofulous diseases. It will intercept those thin, watery discharges which are the result of weakness, degeneration, and putrescent decay of the blood, perpetuated by a low grade of scrofulous inflammation. By an adult it can be taken in doses of from one to two teaspoonfuls three or four times per day.

The bowels should be regulated by using Dr. Pierce's Pléasant Pellets, as required. The patient ought not neglect to carry out all the hygienic recommendations heretofore given.

The enlarged glands about the neck and elsewhere usually respond very well to properly given X-Ray treatments. The treatment

of running sores is very simple. Cleanse them every day with Castile soap and water, being careful not to rub or touch the surface of the sores. Use a clean sponge or a piece of clean muslin, and, saturating it with the warm water, hold it a few inches above the affected part, and squeeze out the fluid, allowing the cleansing stream to fall gently upon the open sore. After thoroughly cleansing the sore, apply to it Dr. Pierce's Healing Salve. Sixty-five cents sent to us will secure a box by return post if your druggist does not have it in stock.

HIP-JOINT DISEASE.

(COXALGIA.)

Hip-joint disease, also known as Coxalgia, is usually a tubercular affection of the hip-joint. It may occur at any period of life. Frequently the cause of this affection is a tubercular deposit in the head of the thigh-bone, but it may result from typhoid fever, or other like disease. Dampness, cold, improper diet, severe injuries from blows or falls are all numbered among the exciting causes which are conducive to the establishment of this disease.

The Symptoms are usually developed gradually; at first there is severe pain in the knee, but finally it is located in the hip-joint. Occasionally it is noticed in the hip and knee at the same time. As the disease progresses, the general health becomes impaired, there is wasting of the muscles, wakefulness, disturbed sleep, high fever, profuse and offensive perspiration, the hair falls out, and there is an inability to move the limb without producing excruciating pain. Frequently pus will be formed and discharged at different points, and the limb will become greatly emaciated. Since pain in the knee-joint may mislead as to the location of the disease, to determine the seat of the affection, place the patient in a chair and percuss the knee lightly, by giving it a slight blow with the knuckle; if the hip be affected, the pain will be readily felt in that joint; if it be simply neuralgia of the knee-joint it will excite no pain whatever. If the disease be allowed to progress and dislocation of the joint takes place, the affected limb becomes shortened.

Treatment. The treatment of this disease should consist in rest for the hip-joint, cleanliness of the person and plenty of fresh air and light, a nutritious diet and the use of tonics and sustaining alterative or blood-cleansing medicines. Dr. Pierce's Golden Medical Discovery has, unaided by other medicines, cured many cases of this disease. This class of medicines should be persistently employed, in order to obtain their full effects. It is a disease which progresses slowly and which is not easily turned from its course, and its fatality should warn the afflicted to employ the best treatment.

Many poor, unfortunate victims know too well, from sad experience, that the course of treatment frequently recommended and employed by physicians and surgeons is ineffectual, and cruel; they deplete the system, apply locally liniments, lotions, iodine, and hot applications; confine the patient in bed and strap his hips down immovably, thus preventing all exercise; then they attach that cruel instrument of torture, the weight and pulley, to the diseased limb.

After many years of practical experience in the treatment of hundreds of cases, we have developed a system of treatment for this terrible malady which is based upon common sense. Instead of depleting, we, by proper constitutional treatment, strengthen and fortify the system. We do not confine the patient in bed, but permit him to go around and take all necessary exercise. We adjust an ingeniously devised and perfectly fitting appliance or apparatus, by which a gentle extension of the limb is maintained, thereby relieving the tension of the muscles, and preventing the friction and wearing of the inflamed surfaces of the joint, which, without the use of our new and improved appliance, are a source of constant irritation. The appliances required in the successful treatment of this disease are numerous and varied in their construction, and require skill and experience on the part of the surgical mechanic as well as on the part of the surgeon, to take accurate and proper measurements of the diseased limb, and to construct the appliances so that they will be adapted to the various requirements of different cases. There are no definite rules for taking these measurements, and only a thorough examination of the case can indicate to the eye of the experienced surgeon what measurements are required, and what kind of an appliance is suitable for each individual case. At the Invalids' Hotel and Surgical Institute these measurements are all taken by the surgeon in person, and each appliance is constructed under his immediate supervision. It is utterly impossible for physicians who have but a limited experience in the treatment of such cases to take correct measurements and send off for an apparatus which fulfills the requirements of the case.

In the light of our vast experience at the Invalids' Hotel and Surgical Institute, we feel that we cannot too strongly urge the employment of a suitable apparatus for supporting the hip-joint, giving it perfect rest, and enabling the patient to exercise and get the out-door air. As much of the pain in this disease is due to the pressure of the head of the *femur*, or thigh-bone, in the *acetabulum*, or socket, steadily-applied mechanical extension, to relieve the inflamed and sensitive joint of the pressure, is of the greatest importance. By such application the patient is enabled to move about without pain, while the joint is kept perfectly at rest—a condition favorable to the reduction of inflammation within it. The surgeon specialist of the Invalids' Hotel and Surgical Institute is frequently sent for to visit cases of this disease hundreds of miles away; and by the employment of suitable apparatus,

he has been enabled, in scores of cases, to relieve the suffering at once. In cases in which the head of the thigh-bone, or the bony socket of the joint has become so diseased as to cause it to ulcerate and break down, all portions of diseased bone should be *thoroughly removed* by a surgical operation. If this be neglected or delayed, a fatal termination of the disease may be expected. Parents should not put off the employment of a competent specialist in this terrible, distressing, and fatal disease. As treated by general practitioners, it very often proves fatal; or, after causing intense suffering for a series of years, if the active condition of the disease subsides, the patient is left with a ruined and broken constitution, a result which more prompt and earlier relief would have prevented.

The records of practice at the Invalids' Hotel and Surgical Institute abound in reports of cases demonstrating the fact, that by careful and judicious management, hip-joint disease in its earlier stages, may be promptly arrested, and that cures may be effected even when the bony structure of the joint is seriously diseased.

WHITE SWELLING.

White Swelling, otherwise known as *Hydrarthrus*, or *Synovitis*, more frequently affects the knee-joint than any other part. The joints of the elbow, wrist, ankle, or toes, may, however, be affected with this disease, but we shall speak of it in this connection as affecting only the knee-joint. Synovitis may be acute or chronic. The latter form is sometimes induced by blows, sprains, falls, etc., or from exposure to cold; oftener it is the result of rheumatism or tubercular disease.

The Symptoms of this affection are generally slow in their appearance, being sometimes months in manifesting themselves. The joint at first presents only a slight degree of swelling, which gradually increases. Pain is soon felt, mild at first, but augmenting until it becomes severe. The skin has a smooth, glistening appearance, and there is an increased amount of heat in the parts. The affected limb becomes wasted, and is sometimes permanently flexed. There is more or less fever about the body, impairment of the digestive organs, and sleeplessness. The pulse is low but quick, and night-sweats and diarrhea often appear. Under this irritation, the patient is liable to waste away and finally die.

A *post-mortem* examination reveals the effects of the disease upon the parts attacked. The cartilages of the joint are soft, the synovial membrane is thickened, the ligaments are inflamed and often destroyed, the synovial fluid is increased in amount, sometimes normal in appearance, at others thick and viscous. If the bones be diseased, their articular extremities may be distended and fatty matter deposited in them. The conditions depend upon the form, severity, and duration of the disease.

Synovitis may be considered under three heads: Rheumatic, Tubercular, and Syphilitic.

Rheumatic Synovitis may arise from exposure to cold, from some injury, or from intemperance in eating. The beginning of the disease may be distinctly marked, or it may come on so gradually that the time of its commencement cannot be noted. The pain is of a dull, steady character, and less severe in the night. This form of the disease sometimes terminates favorably, but in scrofulous systems it is liable to end in the destruction of the joint. It is more common in early life, rarely occurring after the thirtieth year.

Scrofulous Synovitis, or *Tuberculosis of the Knee-joint*, when of a chronic character, shows a wasting of the limb, and the swelling is of a pulpy consistence. This form of the disease is more liable to occur in children, though occasionally it is met with in adults. But little pain accompanies this form, although the limb is liable to become permanently affected. In its earlier stages this disease may be checked.

Syphilitic Synovitis is the result of syphilis. The pain is more severe during the night. It, however, generally terminates unfavorably, especially in scrofulous constitutions.

The Treatment of white swelling should be both constitutional and local. Alterative medicines are indicated to purify the blood. Golden Medical Discovery is unequaled for this purpose, with Anuric Tablets.

As local treatment, in the active stage of the disease, the knee-joint should be steamed, and hot fomentations applied. This should be followed by applications over the joint of solid extract of stramonium or belladonna, mixed with glycerine. The joint should be wrapped in cotton or wool to keep it uniformly warm. If there are openings about the joint, discharging pus, syringe them out once a day with Castile soap-suds, which may be improved by adding a little bicarbonate of potash (common saleratus). See that the bowels are kept regular, and that the diet is nourishing.

Cases of this disease which have been treated at the Invalids' Hotel and Surgical Institute with uniform success might be cited to the extent of filling a very large number of pages like these. When treated by a skilled specialist, this otherwise formidable and dangerous disease is readily amenable to treatment, and good and serviceable limbs can be promised, even in the extreme cases in which amputation is usually advised by general practitioners and surgeons, who desire the glory that they imagine they will receive by performing a capital operation.

RICKETS. (RACHITIS.)

Rickets is a scrofulous disease, in which there is derangement of the entire system, and it finally manifests itself in disease of the bones. It is characterized by a softening of the bony tissue, due to a deficiency of earthy or calcareous matter in their composition. It appears to be

a disease incident to cold, damp places, ill-lighted and imperfectly-ventilated rooms, and it especially attacks those who are uncleanly in their habits.

The Symptoms of rickets are severe pains in the bones, especially during the night, febrile excitement and profuse perspiration, paleness of the face, a sallow and wrinkled appearance of the skin, and derangement of the digestive organs. After a time the body becomes emaciated, the face pale, and the head unusually large. The bones become soft and unable to support the body; various distortions appear; the extremities of the long bones are enlarged, while the limbs between the joints are very slender. Rickets is a disease peculiar to childhood, though it may not be developed until a more advanced period of life. It rarely proves fatal, unless the lungs, heart, or other vital organs, become involved. In some instances the softening and other symptoms continue to increase until every function is affected, and death ensues.

Post-mortem examinations of those who have died of rickets have disclosed morbid changes in the brain, liver, and lymphatic glands. The lungs are often compressed or displaced, and the muscles of the body become pale and wasted. Sometimes the bones are so soft, on account of the deficiency of the calcareous deposit, that they can be easily cut with a knife.

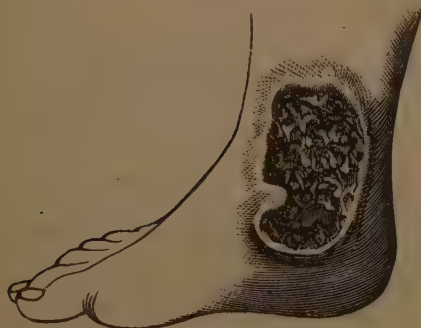
Treatment. The use of Dr. Pierce's Golden Medical Discovery is indicated in this affection. It is a disease usually developed during childhood, in consequence of insufficient exercise, deprivation of the sunlight, low, innutritious diet, and lack of cleanliness. Therefore, it is essential to obviate all known causes, and, at the same time supply the patient with food rich in those elements which the system seems to demand. Under any plan of treatment the general directions given for the hygienic management of scrofula should be followed. We might cite many cases that have entirely recovered from this disease, under our advice and the use of "Golden Medical Discovery." We shall merely say, for the encouragement of the afflicted, that this form of scrofula yields readily to this medicine with Vitamine diet.

OLD SORES. (CHRONIC ULCERS.)

Under this head we may properly consider that class of affections known as Fever-sores, Running-sores, Ulcers, etc. These sores have common characteristics, yet each possesses certain peculiarities, which have led to their division into *irritable*, *indolent*, and *varicose*. These peculiarities are not constant, one form of ulcer often changing into another. ● One feature common to all, however, is their slowness in healing, which has sometimes led to the belief that they are incurable. Another popular notion is, that their cure is detrimental to the health of the patient. With equal propriety we might say that it is dangerous to cure diarrhea, dysentery, consumption, or cancer. As a result of

these erroneous impressions, many people suffer from chronic ulcers for years, and even for a life-time, without attempting to obtain relief. Chronic ulcers usually appear upon the lower extremities. The depth

Fig. 2.



A Chronic Ulcer.

and appearance of the ulcer depend upon its character and the thickness of the tissues where it is situated. Fig. 2 shows a chronic ulcer, or fever-sore, as it appears upon the ankle.

The Irritable Ulcer is painful and tender, the slightest injury causing it to bleed. It is of a dark purplish hue, and filled with spongy, sensitive granulations. It discharges a thin, bloody matter which is sometimes very fetid and acrid,

and excoriates the tissues if it comes in contact with them. The edges of this species of ulcer are shelf-like and ragged, and turn inward. The adjacent structures are red and swollen. Very often they are attended by severe constitutional disturbances, such as chills, fever, and great nervous prostration and irritability.

In the Indolent Ulcer the edges are not undermined, but turned outward, and are rounded, thick, glossy, and regular. The granulations are broad, flat, pale, insensible, and covered with a grayish, tenacious matter. The surrounding parts are not very sensitive, but the limb on which it is located is apt to be swollen. This is the commonest form of ulcer, and often remains for years.

Varicose Ulcer. This species of ulcer occasions a swollen or enlarged condition of the neighboring veins, which are very much enfeebled. It almost invariably appears below the knee, and may be either indolent or irritable. It is generally sensitive to the touch, and sometimes excessively painful. Knots of superficial veins may often be seen beneath the skin.

As we have before remarked, these various species of ulcers are merely modifications of one form of chronic sore. The patient may assert that he enjoys excellent health, but if we question him closely, we find that the sore irritates him, and that there is sufficient constitutional disturbance to prevent the healing powers of nature from effecting a cure.

Treatment. The cure of these sores is necessarily slow, and whoever expects to obtain *immediate* relief will be disappointed.

Constitutional treatment is of the utmost importance, and should, therefore, be thoroughly and persistently applied. The nutritive

system, especially the absorbents, should be kept active, as these are the channels by which the broken-down tissue surrounding the sore is replaced by that of a higher grade of vitality. For this purpose, the best alteratives or blood cleansing remedies are required. If secretion and excretion are not normally performed, the blood becomes poisoned by the absorption of unhealthy "matter" from the sore, and various constitutional disturbances occur. If, at any time during treatment, constitutional disturbances are manifested by fullness or disagreeable sensations in the head, nausea, pain, cough, chills, or fever, a thorough cathartic should be given. If the patient be robust, a repetition of the same once a week will be very beneficial. Dr. Pierce's Golden Medical Discovery, and "Pellets" will be productive of the best results.

The local treatment should depend upon the character of the ulcer. If the sore be *irritable* or painful, soothing applications, such as warm poultices or steaming in a vapor of bitter herbs, as hops, boneset or smart-weed or water pepper, will be found highly beneficial. A poultice of powdered slippery elm is also very soothing, and hence well adapted to this purpose. If the ulcer be *indolent*, a stimulating application is necessary. The hardened, callous state of the edges should be removed by alkaline applications. A strong solution of saleratus, or even a caustic, prepared by boiling the lye from hard-wood ashes to the consistence of syrup, will prove of great utility. One or two applications of the latter are generally sufficient.

The foregoing course of treatment is intended to put the open sore or ulcer in what is known to surgeons as a healthy condition—a condition most favorable for the healing process.

But the open surface of the sore needs something more. It needs the cleansing or antiseptic and soothing influence of such a dressing as is found in Dr. Pierce's Healing Salve. If your dealer in medicines does not have this Salve in stock, 65 cents in stamps sent to World's Dispensary Medical Association, Buffalo, N. Y., will secure a box of this unequalled dressing. It will be sent to your address by return post. Therefore, do not allow the dealer to put you off with some inferior preparation. If he has not the Healing Salve in stock you can easily obtain it by sending to us as above directed.

No matter how good the local dressing applied to the open sore, or ulcer, do not discontinue the internal use of the "Golden Medical Discovery" until the affected parts are completely healed.

FEVER-SORE. (NECROSIS.)

By the term *necrosis* we mean mortification, or the state of a bone when it is deprived of life. Dunglison says: "This condition is to the bone what *gangrene* is to the soft parts." It is popularly known as *fever-sore*, there being no distinction made between this species of sore and those ulcers which affect only the soft tissues of the body. When

any part of a bone becomes *necrosed*, it is treated as a foreign body. Nature makes an effort for its removal, and at the same time attempts to replace it with new and healthy materials. In consequence of this process, the dead portion is often inclosed in a case of new, sound

Fig. 3.



Hand drill for boring bone.

bone, termed the *involucrum*; when this is the case the dead portion is termed the *sequestrum*. If, however, it be superficial, and separate from the parts beneath, it is called an *exfoliation*. This healing process, by which the involucrum is formed, cannot be completed while

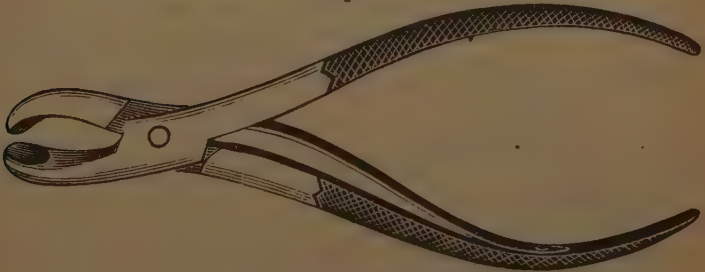
Fig. 4.



The osteotrite, for enlarging openings and cutting carious bone.

the dead portion remains. Hence, numerous openings are made through the involucrum, to permit the escape of the sequestrum. When a surgical operation is performed for the removal of the necrosed bone it is called *sequestrotomy*. The instruments which our

Fig. 5.



Gouge forceps for excavating bone.

specialists usually employ for this practice are represented in Figs. 3, 4, and 5.

Causes. Fever-sore may be due to inflammation, injuries, working in phosphorus, or from the inordinate and protracted use of mercury.

Symptoms. The pain frequently commences in the night, and all

the different stages succeed, until, finally, the result is frequently mortification or death. The entire bone, or only a part of it, may be affected; the parts become swollen, "matter" forms, and unless it be artificially evacuated, it will in time work its way out through a

Fig. 6.



Necrosis of the tibia. A common probe is passed through the sinuses, or openings.

may prolong the disease and subsequently necessitate another operation, or, perhaps, an amputation.

Usually the dead bone is easily removed by the skilled specialist surgeon, and, when thoroughly taken out, the parts readily heal and the patient rapidly recovers. The removal, therefore, of the dead bone which is a constant source of irritation, and the cause of protracted suffering, should not be delayed, for very rarely indeed can it be removed at all without the assistance of the surgeon. Besides, delay often results in the loss of the limb, and not unfrequently occa-

a fistulous opening. As the disease progresses, the adjacent tissues become thickened and numerous openings are formed, which communicate with the bone, and often with each other, so that a probe may be passed from one to another, as represented in Fig. 6, copied from a drawing by Dr. Howe. The discharge from fever-sores varies in character, and usually has a fetid odor. The surgeon can readily distinguish between healthy and unhealthy bone by the use of a probe. The pus discharged in necrosis contains minute particles of bone, which may be felt by rubbing it between the fingers. Sometimes large pieces present themselves at the openings. The general health is seriously impaired, and the patient becomes debilitated, anæmic, and hectic.

Treatment. The process of repair is necessarily tedious, and nature should be assisted to remove the old bone and promote the formation of the new. An alternative course of treatment is indicated and must be persistently followed. Give Dr. Pierce's Golden Medical Discovery and Pleasant Pellets in sufficient doses to keep the bowels regular. However, all efforts to heal the sores, as long as dead bone remains, will prove fruitless. The sores should be thoroughly cleansed with injections of an alkaline solution, after which bandages, moistened with glycerine, may be applied. If they emit a fetid odor, add a few drops of carbolic acid to the glycerine. The dead bone can be but slowly removed by suppuration, therefore time, and, indeed, sometimes life itself, may be saved by removing it with surgical instruments. In the operation of sequestrotomy, the surgeon must exercise great judgment. Carelessness

may prolong the disease and subsequently necessitate another operation, or, perhaps, an amputation.

sions the death of the patient. Under the influence of a reliable local *anæsthetic*, carefully applied, the operation of removing the decayed and offensive bone is speedily and painlessly performed, the use of chlorform or ether not generally being required.

We thank our patrons who have so kindly given us testimonials and photographs for use in this book. We regret that we cannot find space for more in this edition.

WORLD'S DISPENSARY MEDICAL ASSOCIATION

No. 665 Main Street

Buffalo, N. Y.

"BUILDS UP THE ENTIRE SYSTEM"

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL AND SURGICAL INSTITUTE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—Dr. Pierce's Golden Medical Discovery is an excellent family medicine. I have always given it to my children as a blood purifier whenever occasion required. It always proved to be just the medicine needed for such conditions. It puts the blood in perfect and healthy condition and builds up the entire system. I would recommend this tonic for growing children.

Very truly yours,

MRS. KATHRYN GORMAN.

ANEMIA—IMPOVERISHED BLOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Dear Sirs—Ten or twelve years ago I had a combination of diseases. Our family physician said I was bloodless and there was no hopes of my recovering. My mother advised me to consult you, which I did. After one month's treatment I was on foot again; it was truly astonishing how speedily I found relief after taking your special preparations. I have also used your "Favorite Prescription" and "Golden Medical Discovery," which proved very beneficial.

Very truly yours,

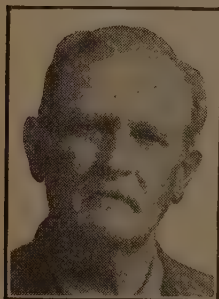
MRS. ADDIE R. KNIGHT.



MRS. KNIGHT.

MALARIA. NO AMBITION.**Appetite Failed. Lost Grip on Work.**

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL, Buffalo, N. Y.



MR. B. W. NASH.

Dear Doctor:— I have cause to remember with gratitude Dr. Pierce's Golden Medical Discovery, for I verily believe it saved my life when I was a young man farming, over forty years ago. Somehow I had gotten into a bad state of health, my appetite failed, I lost my grip on work, had no ambition whatever, and could not sleep well at night. Then malaria got into my system and made me feel mean and miserable. I knew my blood was full of poison. I wrote to your medical staff and told them of my condition, and, upon their advice, I began taking the "Golden Medical Discovery." I kept it up faithfully for over six months. It made a new man of me, giving me a feeling of health and strength in place of that mean and tired, wornout feeling I had. Dr. Pierce's Golden Medical Discovery did its work so well that I have never had a return of my trouble since.

Very sincerely yours,

B. W. NASH.

RUNDOWN FOLLOWING LA GRIPPE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:— I have taken Dr. Pierce's Golden Medical Discovery for over forty years, also the Pleasant Pellets and they have always given me relief. I had a spell of La Grippe several years ago and was down three months and a half. The doctor said it would run into consumption. I was pale as a dead man. Finally I quit the doctor and got a bottle of the 'Medical Discovery' and by the time I finished taking it I could see it was helping me. I sent back for a second bottle and by the time I had taken it the color had come back to my face and my cough was gone. It is a good medicine for a rundown condition.

Respectfully yours,

G. T. YOES.

NEED A GOOD BLOOD MEDICINE AND TONIC?

Mrs. Matthews says "Golden Medical Discovery" Sharpens the Appetite and Renovates the Entire System.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:— Dr. Pierce's Golden Medical Discovery is the best blood medicine and all-round tonic I have ever taken. In the springtime when the blood condition is low and the system needs building up, I take the "Discovery" and I find it excellent. It strengthens the body and relieves one of that tired feeling that most people call "Spring Fever." It sharpens the appetite and, in fact, renovates the entire system and puts it in perfect working order.

For many years the least cold would cause me to cough continually, and I never found any medicine that would give me anything more than temporary relief until I began taking Dr. Pierce's Golden Medical Discovery, but it just seemed to get right down to the very seat of this trouble and gave permanent relief.

Yours respectfully,



MRS. W. H. MATTHEWS.

Mrs. W. H. MATTHEWS.



MRS. CORTY.

"ULCER ON LEG."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After having suffered for a year with an ulcer on my leg, caused by a vain bursting open, I am thankful to say I am well again and able to do my work. I had given up all hopes of ever getting better when one day I came across an advertisement in a paper and decided to try Dr. Pierce's medicines. I bought a bottle of "Golden Medical Discovery" and a box of "All-Healing Salve." After using the first bottle of the "Discovery" I noticed only slight improvement but resolved not to give up. After taking four bottles of the medicine and using six boxes of the "Salve" I find that I am entirely cured.

I wish you great success and will do all possible in recommending your medicines.

Very respectfully,

MRS. LOUISE CORTY.

A TERRIBLE SKIN DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—I had been troubled with skin disease all my life. As I grew older the disease seemed to be taking a stronger hold upon me. I tried many advertised remedies with no benefit, until I was led to try your "Golden Medical Discovery." When I began taking it my health was very poor: in fact, several persons have since told me that they thought I had the consumption. I weighed only about 125 pounds. The eruption on my skin was accompanied by severe itching. It was first confined to my face, but afterwards spread over the neck and head, and the itching became *simply unbearable*. This was my condition when I began taking the "Discovery." When I would rub the parts affected a kind of branny scale would fall off.

For a while I saw no change or benefit from taking the "Discovery," but I persisted in its use, keeping my bowels open by taking the "Pellets," and taking as much outdoor exercise as was possible, until I began to gain in flesh, and gradually the disease released its hold. I took during the year somewhere from fifteen to eighteen bottles of the "Discovery." It has now been several years since I first used it, and though not using scarcely any since the first year, my health continues good. My average weight being 155 to 160 pounds, instead of 125, as it was when I began the use of the "Discovery."

I am now stronger and enjoy better health than I have ever done before in my life.

Yours truly,

J. A. Buxton.

ULCER OF A YEAR'S STANDING.

WORLD'S DISPENSARY MEDICAL ASS'N, Buffalo, N. Y.:

Gentlemen—I was bothered with an ulcer on my right limb for a year. I went to a doctor here but his medicine did me no good. The sore got worse right along so I tried another doctor and his medicine did me good for a while, then the sore seemed to be getting worse so I tried Dr. Pierce's medicines. I took Dr. Pierce's Golden Medical Discovery and used Dr. Pierce's All-Healing Salve and the ulcer was well before I had the medicine all used. I recommend these medicines to others.

Yours truly, MRS. BERTHA HAYES WEBB.



MRS. WEBB.

ECZEMA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. QUICK.

Gentlemen—I was troubled with eczema from the crown of my head to the soles of my feet. Could not walk at times nor wear shoes. Thought there was no help for me—at least the doctor said there was none. I went to see friends at Christmas-time and there heard of the good that Dr. Pierce's Golden Medical Discovery had done for them and was advised to try it at once. For fear that I might neglect it my friends sent to the village and got a bottle and made me promise that I would take it. I had been getting worse all the time. I took thirteen bottles of the "Golden Medical Discovery" and used the "All-Healing Salve," which made a complete cure. It was slow but sure. I am well and enjoy health the best I ever did in my life.

Yours truly,

MRS. ELLA QUICK.

BAD BLOOD AND SORES

DOCTOR V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—A few years ago my blood got very bad. I would get sores on my neck and if I would scratch myself the least bit it would fester up and would not heal. I saw Doctor Pierce's medicines advertised and thought I would give them a trial. I took "Golden Medical Discovery" and "Pleasant Pellets" and they cured me in a very short time. I have not had any trouble with my blood since, and am enjoying the best of health. I can recommend Doctor Pierce's medicines as being good.

Yours very truly,

G. C. ESHELBY.



MR. G. C. ESHELBY.

ECZEMA.WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

MARIE JUNGST.

Gentlemen—About four years ago my little daughter had a breaking out on her toes. I tried household remedies but they did her no good. I took her to the best physician we have in our town and he pronounced her disease eczema. We doctored with him a year or more. The disease would seem to be all gone, but to my surprise it always came back again. I came to the conclusion she would never get rid of it. Finally I came across a copy of Dr. Pierce's Medical Adviser, and in it I read of cases that had been cured. I wrote to Dr. Pierce, stating her case, and received a letter from him advising the use of "Golden Medical Discovery." She has taken three bottles of it and has had no return of the disease since.

Respectfully yours,

MRS. LOUIS JUNGST.

CERVICAL ADENITIS OF EIGHTEEN YEARS' STANDING.

DR. PIERCE'S INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:

Gentlemen—I was troubled with enlarged glands of the neck for eighteen years. I do not know how much money I spent for medicine and I also had an operation by the best surgeons here, but without success. I have had a copy of the Medical Adviser in my home since I can remember and have always found it a great help. I always thought it was so far to your Institution and the price would be so high that I would not be able to go. One day I was reading one of your pamphlets and it impressed me so much that I thought I would write to see what you would charge me. I want to say right here that it was the best thing I ever did, for your letters were so kind that I resolved to go to you for treatment, so on September 27, 1915, I arrived at your Institute, after a travel of 900 miles, and from the first minute of my arrival every one was so kind and did so much for me that my stay was one of great pleasure. The operation, which was a success, was done on September 29th, and it has now been nearly a year and there is no sign of glands enlarging again, but when I was operated on before, the scar had not healed until my neck was as large as before the operation. If I had to be operated on a thousand times or have anything in surgery done, I would go to your Institute and would not fear in the least to place my life in your physicians' hands. I remained eighteen days and can say that every day and every hour became brighter, and when the Doctor discharged me it made me feel so bad to leave such a grand home. I saw patients there from all over the United States and Canada, and never heard one word but praise for your great skill in the treatment of every case. I want to say right here to sufferers, do not let your home doctors or anyone else prevent you from going to this Institute, for I had doctors and friends and some of my own people say that it was foolishness to go so far for such a simple operation, but if those persons only knew what it was to be on an operating table, I think they would want someone that knew his business for the second if not for the first. My advice is to go where they know how.



MR. STEVENSON.

Yours,

CHAS. M. STEVENSON.

IMPURE BLOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main Street, Buffalo, N. Y.

Gentlemen.—I have been taking your "Golden Medical Discovery" for impure blood. It has done me more good than all the doctors' medicine I have ever taken. My mother used Dr. Pierce's Golden Medical Discovery for weak lungs and cough. She said it did her more good than all the doctors' medicine she ever took. I think your "Discovery" is the best that one can take for weak nerves and impoverished blood.

Yours truly,

J. W. DYER.

BAD BLOOD AND SORES

Complicated with Kidney and Liver Trouble.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen.—I want to inform you what your medicine has done for me. I had been troubled with kidney and liver trouble for years. I spent dollars doctoring and with the best Specialists in Pittsburg, Pa., and found no cure. I was troubled with bad blood, breaking out in sores. I concluded to try Doctor Pierce's Golden Medical Discovery. I have taken four bottles and feel sound and well as any man. My blood is good and I can sleep well. Have no more kidney or liver trouble, thanks to Dr. Pierce for what his medicine has done for me.

Yours respectfully,

HARRY B. WHITE.



MR. H. B. WHITE.

ADVISES DR. PIERCE'S MEDICINES**Because they do not contain Injurious Drugs.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, BUFFALO, N. Y.



DR. A. A. SMITH.

Gentlemen: — Every one of Dr. Pierce's Medicines is the very best and the purest that anyone can find. I have taken them personally and have prescribed them for my patients, when I knew the case called for just such medicines, and I have the first time to be disappointed in their effect on a patient.

Dr. Pierce's Favorite Prescription is the very best medicine a woman can take for weakness of the feminine organs or to build up the nerves.

I can also speak as well for Dr. Pierce's Golden Medical Discovery as a building tonic and blood enricher.

And for kidney or bladder trouble, there is nothing in the medicine line I can so highly recommend as Dr. Pierce's An-uric. It is a real kidney tonic.

Dr. Pierce's Pleasant Pellets, too, are the finest regulator of the stomach, liver and bowels that anyone can take. They give the proper relief and are very mild and easy.

I personally have taken Dr. Pierce's Golden Medical Discovery, An-uric Tablets and Pleasant Pellets and they are just as Dr. Pierce recommends them to be. They are pure — do not contain any injurious drugs.

Very truly yours,

DR. A. A. SMITH.

ULCER ON LEG.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, BUFFALO, N. Y.

Gentlemen: — Since August, 1922, I suffered with a chronic ulcer on my left leg. Two competent physicians treated me for one solid year with little or no results. After a year had expired and my leg seemed to be no better, I became discouraged with the physicians' treatments and I then began using a salve advertised as being very beneficial to ulcers, but I received little or no benefit. In October, 1923, I began using Dr. Pierce's treatment for ulcers, consisting of Dr. Pierce's Healing Salve, Dr. Pierce's Golden Medical Discovery for the blood and Dr. Pierce's Pleasant Pellets to regulate the bowels and I can truthfully say great has been the result. Before using these remedies I could not rest at night, but now I sleep peacefully, and my leg does not pain me; it is one hundred percent better. I advise all sufferers of ulcers to use Dr. Pierce's remedies. You are almost sure to get good results.

Very truly yours,

ROXIE LONG.

BLOOD POOR.**Food Did Not Nourish, Was Getting Weaker all the Time.**

DR. V. M. PIERCE, PRESIDENT WORLD'S DISPENSARY MEDICAL ASSOCIATION.

Dear Sir: — I can, without hesitation, endorse and recommend Dr. Pierce's Golden Medical Discovery as a fine tonic to give new blood and to cleanse the system from impurities. I was in a miserable state of health when my attention was drawn to this wonderful medicine. My food did me no good and I felt myself getting weaker all the time. Two bottles of the "Discovery" put me on my feet again — gave me new strength and a feeling that I was well. It is several years since I took the "Golden Medical Discovery" and I have felt no return of the worn-out condition I had before I took it. One may have perfect confidence in Dr. Pierce's Golden Medical Discovery as a blood medicine and system builder.

Very sincerely yours,

MRS. W. M. McDUFFEE.



MRS. McDUFFEE.

BLOOD IN BAD CONDITION FOLLOWING PTOMAIN POISONING



MR. DUNSTON.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—A few years ago I had a severe attack of ptomain poisoning which left my blood in very bad condition. I tried a great many so-called "tonics" but felt no better until a friend suggested my trying a bottle of Dr. Pierce's Golden Medical Discovery, which gave me immediate relief. It is surely an excellent tonic, does not purge, and is not objectionable to the taste. I was living in England when I first took the "Discovery" and have since been around the world and always carried a bottle of the "Golden Medical Discovery" right with me. I would not be without it and am only too pleased to be able to recommend it.

Yours truly,

WALTER H. DUNSTON.

"LOOKS MUCH BETTER."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am glad to say I have been much better since taking your medicines, Doctor Pierce's Favorite Prescription and "Golden Medical Discovery." I also used Dr. Pierce's All-Healing Salve. I had a sore and matter used to run from it, also my legs used to ache very much. I am told I look very much better. Shall be very pleased to recommend your medicines whenever I can. You are welcome to publish this with my photo, which I enclose.

Yours truly,

MISS A. APPS.



MISS APPS.

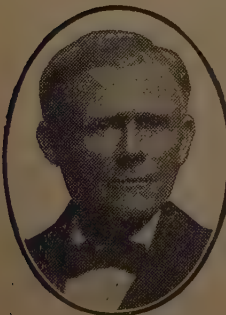
IMPURE BLOOD.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—My husband was a sufferer from stomach-ache and impure blood. Had a sore on his face that would form a scab which would dry and drop off in about a month, then another would immediately form. It continued this way for a long time. He tried every remedy that any one would suggest but found no relief. He then tried Dr. Pierce's Golden Medical Discovery which completely cured him. He has stayed cured now for two years, and I recommend this valuable medicine for any impurities of the blood.

Very respectfully yours,

MRS. JAMES H. MARTIN.



J. H. MARTIN, ESQ.

SORES ON LEG, FIVE YEARS' STANDING.

G. METZGER, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In February, 1907, my right leg began to swell, but after some rubbing with liniments it seemed all right. In September, 1907, my tongue was so swollen that I could hardly close my lips and the doctor pronounced it a case of brass poisoning. After doctoring some time I seemed all right until February, 1908, when my leg began to swell again, and in May it was a mass of small sores which ran into one large one. I doctored with four doctors without any relief until I began using your remedies and following your advice. After using two boxes of "All-Healing Salve" and taking four bottles of "Golden Medical Discovery" I felt like a new man. The sore leg which was so hard you could not dent the flesh is now as good as the other; the sore is all healed up and does not pain in the least. It seems too good to be true after almost five years of suffering. I owe it all to your remedies.

Yours truly,

GEORGE METZGER.

"FEVER SORES."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—My daughter was attacked with a severe pain and swelling in her ankle, which soon caused her to have high fever. We employed some of the best physicians in this locality who pronounced it rheumatism, did everything for her they could do, but she kept getting worse from day to day, and in about five weeks after she was first taken sick her ankles and legs came open and discharged a lot of yellow matter, and finally slivers of bones came out of the openings in her ankles. All the doctors we consulted said that we would have to have an operation performed on her and have the dead bones taken out, or else she could not get well, with the exception of one of the doctors, who said that if her health could be improved the dead bones would come out and be replaced with new ones, for the dead pieces would brake loose from the sound bone and come out through the opening with the matter; but he could not do anything to improve her health.

After doctoring her three months she was reduced to a mere skeleton and had to be tended to like a mere baby and have her feet elevated, or else she would scream with pain. We commenced giving her Dr. Pierce's Golden Medical Discovery. After using it for one month we could see, for the first time, that she was getting no worse, and after using about five bottles her health began to improve a little; but she still suffered with pain and could not have her feet down until she had taken twelve bottles. When she had taken fifteen bottles—she began to walk on crutches, and later with a cane, for about two or three months, when she could walk without a crutch or cane. The diseased bones gradually came out in pieces, some of them an inch to two inches long and one-fourth of an inch thick; the sores healed as soon as the last dead bone was out. She is now a strong, healthy young lady.

Respectfully yours,

D. R. SCHROER.

GENERAL DECLINE, RUNNING SORE ON LEG.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Thanks be to God, and you, I have the best of health since I have taken your special medicine and one bottle of "Favorite Prescription." I was as weak as any person could be without dying, and I am as healthy as any person can be to-day, and I have gained ten pounds since, and a great many people remark to me how much better I look.

Also, I can mention to you another person who was cured by your "Golden Medical Discovery." His name is John McCoy. For near two years he never walked. He suffered from a running sore on his leg, and after using twelve bottles, he could walk all right and is well to-day. The doctors wanted to have it taken off. You say in your letter you would like to have a photograph. I have none and there is no photograph gallery in this village or I would have one taken.

Yours truly,

Mrs Isaac Brady

INJURED BY A FALL.**Escaped an Operation and Cured by Dr. Pierce's Medicines.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :

Gentlemen—Our son, Christian Wagner, aged eight years, had a severe fall, and about two weeks afterward he began to walk lame and complained of soreness and tenderness in the left side. In a short time he began to be drawn out of shape and appeared deformed, and we became much alarmed about him. We consulted two physicians who advised that we send the boy to a public hospital, and that he be operated upon. Another doctor whom we consulted said that he had spinal curvature and advised an immediate operation. Another physician said the trouble was hip disease, and that the boy would be a life-long invalid, unable to work.



MASTER WAGNER.

Being much alarmed for the child, and unwilling to submit him in his weak state to an operation (for he was very much emaciated), we thought we would take him to Dr. Pierce's Invalids' Hotel and Surgical Institute, and see what the surgeons there would say about his condition. We had to carry him there in our arms as he could not stand and was all bent out of shape.

The doctors at the Institute made a very careful and cautious examination. They did not think an operation was necessary, but advised us to put the boy to bed, and give him Doctor Pierce's Golden Medical Discovery, and to use Doctor Pierce's Extract of Smart-weed locally, and then, at the end of sixty days, report the patient's condition. Being anxious to avoid an operation, we did as they advised and put the child to bed. Before he had used half a bottle of the medicine, we could see an improvement, and when the sixty days were up, we were able to take the boy back again—this time well, and on his feet, *entirely cured*.

It seems to us almost a miracle that our boy should be made well again, after the best physicians in Buffalo could give us no hope of saving his life except by an operation which was very dangerous in his weak state. We feel truly grateful, not only that the life of our boy was spared and his health restored by Dr. Pierce's medicines, but for the very thoughtful and careful consideration of the case given by the doctors in the Institute. If they had jumped at conclusions, as did the other physicians whom we consulted, we should in all probability have lost our boy, as he seemed so weak that it would have been almost impossible for him to live through an operation.



MR. CHRISTIAN WAGNER.

Yours very truly and gratefully,

MRS. A. WAGNER.

THE CURE WAS COMPLETE.**Reports Fifteen Years Later and Sends Recent Photo.**

I am very pleased to say that my son is in good health and has been ever since taking your treatment. He has never had any trouble with his side since.

MRS. A. W.

NEED A BLOOD TONIC?**Try "Golden Medical Discovery."****Mr. Wm. D. COOPER**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—For any one who suffers from any form of indigestion or a blood disorder, I can highly recommend Doctor Pierce's Golden Medical Discovery. For several years this is the tonic I have taken every spring and fall to keep my blood in a healthy condition. I have also found that my appetite improved and my digestive organs responded to the treatment. I believe the "Golden Medical Discovery" has everything else beat in the way of a tonic and blood medicine and that is why I give this statement for publication.

Yours truly,

WM. D. COOPER.**ULCER**

DR. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.

Dear Sir:—This summer I became somewhat rundown and a broken vein in my limb opened and became ulcerated. Having had similar trouble before, I looked for a siege, as an ulcer is a slow thing to heal. But I was much surprised at the end of three weeks' use of Dr. Pierce's Healing Salve to find it entirely healed, having used less than one box of the Salve. I also used Dr. Pierce's Golden Medical Discovery Tablets which built up my whole system and increased my weight. After using the first bottle or two I noticed a great benefit from them. I have taken five or six bottles of the Tablets in all and my health is perfect—I am strong and well. I would recommend these remedies of Dr. Pierce's to anyone as they surely will bring results.

Very sincerely yours,

WM. F. HOWARD.**MALARIA. BLOOD THIN AND POOR. BRONCHIAL COUGH.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main St., Buffalo, N. Y.

Dear Sirs:—I have tested both Dr. Pierce's Golden Medical Discovery and the "Pleasant Pellets" and can recommend them as the best medicines I have ever used.

Several years ago while living in Alabama, I contracted a bad bronchial cough, was full of malaria, with aches in every joint, not enough ambition to get up to eat, and my blood was thin and poor. I heard of the "Golden Medical Discovery" and used several bottles. It surely did make a difference in my feelings, for it chased the poisons out of my system and enriched my blood. It made me feel years younger.

I have since used Dr. Pierce's Pleasant Pellets for stomach, liver and bowel trouble and I have no more constipation, no more sour taste in my mouth, no more heartburn, for these little "Pellets" occasionally taken keep these organs active.

**MR. G. A. CHOAT**

Very truly yours,

G. A. CHOAT.

THICK NECK

(GOITRE)

Thick neck, or goitre, also sometimes called bronchocele, consists of an enlargement of the thyroid gland, which lies over and on each side of the trachea, or windpipe, between the prominence known as "Adam's apple" and the breast bone. The tumor gradually increases in front and laterally, until it produces great deformity, and often interferes with respiration and the act of swallowing. From its pressure on the great blood-vessels running to and from the head, there is a constant liability to engorgement of blood in the brain, and to apoplexy, epilepsy, etc. When the enlargement once makes its appearance, it continues to increase in size as long as the person lives, unless appropriate treatment be resorted to. It never disappears spontaneously. These tumors are much larger than those not familiar with them would suppose from their outward appearance, as they extend under and are bound down by the muscles on each side of the neck, so that they become embedded in the cellular tissues underneath, while the sides of the neck retain, to a considerable extent, their round and even appearance, whereby the real magnitude of the tumor is not apparent. Figure 7 represents the appearance of the neck of a person afflicted with this disease. The form of protuberance varies materially with different persons, that shown in the engraving being the shape which it ordinarily assumes.

Fig. 7.



The causes of the affection are not well understood. The use of snow-water, or water impregnated with some particular saline or calcareous matter, has been assigned as a cause. It has also been attributed to the use of water in which there is not a trace of iron, iodine, or bromine. A writer in a Swiss journal, *Feuilles d' Hygiene*, states that the disease is often due to an impeded circulation in the large veins of the neck, from pressure of the clothing, or from the head

being bent forward, a position which is often seen in school children, when the muscles of the back of the neck have become fatigued.

In cases of exophthalmic goitre there are certain cardinal symptoms which usually develop very early after the commencement of the growth itself. The most important of these being rapid action of the heart, increasing prominence of the eye-balls and excessive nervousness, followed in more advanced cases by excessive sweating and mental disturbance.

Treatment. We have obtained excellent results in many cases, not too far advanced, by a method of treatment which consists in the employment of electrolysis in conjunction with other therapeutic means. In many cases this treatment, properly carried out, will result in great benefit, and in some effect a radical cure. It furthermore is attended with no danger whatever.

Many cases at the present time are operated upon with entire success. The operation known as thyroidectomy should be performed in well-selected cases, too far advanced to be effectually overcome by more simple means.

Those who are afflicted with this disease and unable to avail themselves of special treatment cannot do better than to take Doctor Pierce's Alterative Extract, or Golden Medical Discovery, and apply over the skin around the tumor, night and morning, the following, which may be prepared at any drug store:

Resublimed Iodine	One dram
Iodide of Potassium	Four drams
Soft Water	Three ounces

Apply to the tumor, twice daily, with feather or camel hair pencil.

Our Physicians and Surgeons will be pleased to answer letters of inquiry at any time, and to give advice regarding this difficulty.

M U M P S

(PAROTITIS)

This is an inflammation of the parotid glands and generally occurs in childhood. It is often epidemic, and is manifestly contagious. It usually, though not always, appears on both sides of the neck at the same time.

Symptoms. An external, movable swelling, just below and in front of the ear, near the angle of jaw, is the prominent symptom. The enlargement is not circumscribed, but hard and painful, and attended with more or less fever, derangement of the secretions, and difficulty in swallowing. The swelling increases until the fourth and fifth day, when it gradually diminishes, and by the eight or tenth is entirely gone. Sometimes the disease is accompanied by swellings of the breast in the female, or the testicles in the male.

Treatment. Usually but little treatment is necessary. Exposure to cold should be avoided. If severe or painful, with febrile symptoms, a hot foot-bath and small doses of the "Compound Extract of Smart-weed" in some diaphoretic infusion, to induce sweating, together with small doses of aconite, will produce good results. If swelling of the testicles threatens (which seldom happens except on taking cold), resort should be had to mild cathartics, the spirit vapor-bath, stimulating liniments to the neck, and warm fomentations to the part attacked. If delirium occurs, a physician should be summoned.

INFLUENZA, OR GRIPPE

This is an infectious disease, characterized by depressions, and usually associated with a catarrhal condition of the mucous membrane. It may affect the respiratory organs or the intestinal canal. There is a marked liability to serious complications, of which pneumonia is the most dangerous. The disease is evidently due to a specific virus of great infectiveness, and is more active and contagious at certain seasons and under certain conditions of the atmosphere. By some it has been supposed that it is due to a miasma in the air, but the character of its infection indicates that the true virus is of a germinal nature.

Uncomplicated cases recover, but in the aged and in the delicate we may see fatal results, due usually to the profound depression or the high temperature to which the individual is subjected. There is much redness and swelling of the mucous membranes of the nose and throat—a bronchitis—and a catarrhal state of the stomach and intestines. These may all be present, or the disease may center upon one particular portion of the animal economy, and manifest its ravages there alone.

Symptoms. The attack usually resembles an ordinary catarrh or

cold. In some cases the nasal catarrh is absent, or very mild, and the infection invades the general system, with much fever. A very striking manifestation of the disease is the severe nervous troubles which are present at the outset, consisting of headache, pain in the back and legs, and a general soreness of the muscles and bones as if bruised or beaten. The pulse is usually feeble and small—intermittent. The disease may center in the brain, producing delirium. Mental disorders are not uncommon, and there is usually following the disease more or less inaptitude for mental work and a tendency to depression of spirits. In many cases there is a severe diarrhea, and the individual suffers much from pain and discomfort in the abdomen. This is a gastro-intestinal irritation, and apparently favors an early recovery, and usually there are less severe sequels in such cases.

The most dangerous complication is pneumonia. These cases may follow bronchitis, or the grip may begin with well-characterized symptoms of this disease, for which see the chapters upon this trouble. The sputa may not be rusty until after several days. The crisis is usually slow, and a considerable proportion recover, the disease frequently showing a sudden change for the better, and the patient being up and around in a few days. Cases complicated with pneumonia are the most indefinite in their symptoms, and require the closest attention.

Treatment. In every case the disease must be regarded as a dangerous one, and the patient be confined to bed and indoors until all fever has disappeared, otherwise sudden and serious manifestations are liable to appear at any time. The patient must be well fed and nourished from the outset. The bowels should be acted upon by mild laxatives, such as castor oil or Dr. Pierce's Pleasant Pellets, using from one to three. It is also of advantage afterward to move them twice each day, by the injection of warm water, to which has been added a teaspoonful of table salt to each pint. This injected into the rectum, using the water slightly tepid, or cool if the patient is feverish, will tend to soften the actions from the bowels and favor the escape of poisonous matter. The cool water has also a soothing effect upon the fever and nervous system. If the fever is high, and there is delirium, small doses of aconite, with water, should be used every half hour or hour, but all depressing agents of this kind must be used with caution, as profound prostration sometimes develops. Warm baths, repeated frequently, and followed by hot lemonade, are of the greatest benefit in reducing the feverish condition and quieting the patient. The bed should be warmed after these are administered and the patient given hot lemonade to bring on free action of the skin, kidneys, and bowels. Where the pulse is weak, the free use of stimulants, as wine, coffee, tea, and brandy or whiskey, are required, as the great danger of the disease is a depression of the heart. In severe bronchitis, pneumonia, and other complications, appropriate treatment should be applied.

ACUTE NASAL CATARRH.

Acute Nasal Catarrh, or cold in the head, is an acute inflammation of the mucous membrane lining the nasal passage which may confine itself to these parts or extend to the pharynx, larynx, and air-passages below, or affect the auxiliary sinuses or cavities communicating with the nasal passages.

The most frequent cause of cold in the head is exposure to sudden changes in temperature, or draughts of cool air, without taking proper precaution to protect the body so as to prevent the rapid radiation of animal heat. In most cases there is an inherited tendency or acquired weakness, which frequently may be associated with a scrofulous condition of the whole system, that render these points less resistant, and consequently invite the morbid changes which result from exposure and cold. Acute Catarrh also occurs during the initial stage of such eruptive diseases as measles, typhus, typhoid, erysipelas, etc.

Seldom do we meet with an otherwise healthy individual, who is subjected to a frequent cold in the head. Impure blood, inherited scrofulous taints, enfeebled circulation, debility, either general or nervous, are all advance agents, inviting catarrhal disease, and preventing rapid recovery from an acute attack, so that a low grade of Chronic Catarrh is generally the sequence.

Symptoms. The attack is usually ushered in by a chill, or chilly sensation, feeling of lassitude, followed by a slight fever. These symptoms are not as distressing as the sense of fullness about the eyes and frontal region, and prickling dry heat, with more or less obstruction in the nostrils. A few hours later follows a copious, acrid watery discharge, which gradually becomes thick and yellow. Often the inflammatory action may extend to the orifice of the eustachian tube, causing obstruction with temporary deafness, or ringing in the ears. Severe facial neuralgia may be caused by the pressure from the swollen parts upon the branches of sensitive nerves.

Treatment. In the mild forms of acute catarrh, or coryza, only simple treatment is required. A hot foot-bath on retiring at night, with a full dose of Dr. Pierce's Compound Extract of Smart-weed, to produce free perspiration will generally break up the attack. Should the discharge from the nostrils continue, Dr. Sage's Catarrh Remedy should be freely used four to six times each day, until the symptoms are controlled. In case the bowels do not act, a full dose of Dr. Pierce's Pleasant Pellets may be taken at bedtime. Avoidance of exposure to cold, and light vegetable diet, are advisable. In the more severe attacks, especially when complicated by laryngeal or bronchial symptoms, the most decisive measures should be employed. The Compound Extract of Smart-weed should be taken freely, together with

hot drinks, or a hot general bath. The patient should be warmly covered in bed to encourage a continued perspiration, to equalize the circulation, and subdue the inflammation. Dr. Pierce's Golden Medical Discovery should be taken in teaspoonful doses four times each day in all cases that are complicated or protracted.

Individuals suffering from frequent colds will do wisely to fortify their systems by taking a few bottles of the "Golden Medical Discovery" to improve nutrition, purify the blood, and thus aid nature in overcoming such inherited tendency or acquired weakness as may be their misfortune to possess. Remember frequent attacks of Acute Catarrh prepare fertile soil for the chronic form which oftentimes is so loathsome and destructive.

CHRONIC NASAL CATARRH.

OZÆNA.

In consequence of repeated attacks of acute catarrh, or "cold in the head," as it is usually termed, the mucous membranes of the nose and the air-passages of the head become permanently thickened, the mucous follicles or glands diseased, and their functions either destroyed or very much deranged. Although chronic catarrh is most commonly brought on in the manner above stated, it sometimes makes its appearance as a sequel of typhoid fever, scarlet fever, measles, or other eruptive fevers, or shows itself as a local manifestation of scrofulous or syphilitic taints in the system.

Injury to the nose may result in a displacement of one or more of the bony structures, setting up a chronic inflammation with catarrh at that point. In the early stages of the disease, the patient may be annoyed with "only a slight dropping into the throat," as many express it, the amount of the discharges from the air-passages of the head at this stage of the disease being only slightly in excess of health. In some cases the discharge is thick, ropy, and tough, requiring frequent and strong efforts in the way of blowing and spitting, to remove it from the throat, in which it frequently lodges. In other cases, or in other stages of the same case, the discharge is thin, watery, acrid, irritating, and profuse. The nose may be "stopped up" from the swollen and thickened condition of the lining mucous membrane, so as to necessitate respiration through the mouth, giving to the voice a disagreeable nasal twang. From the nature of the obstruction in this condition, it is useless for the sufferer to endeavor to clear the passage by blowing the nose; this only tends to render a bad matter worse, by increasing the irritation and swelling of the already thickened lining membrane. The swelling of the mucous membrane does not in all cases become so great as to cause obstruction to respiration through

the affected passages. In some cases, the patient suffers from headache a great portion of the time, or experiences a dull, heavy, disagreeable fullness or pressure in the head, with a confusion of his ideas, which renders him quite unfit for business, especially such as requires deep thought and mental labor. Memory may be more or less affected, and the disposition of those who are otherwise amiable is often rendered irritable or morose and despondent. The mental faculties suffer to such an extent in some cases as to result in insanity. The sense of smell is in many cases impaired, and sometimes entirely lost, and the senses of taste and hearing are not infrequently more or less affected.

Ozæna. The ulcerous or more aggravated stage of the disease, from the offensive odor that frequently attends it, is denominated *Ozæna*.

The secretion which is thrown out in the more advanced stages of chronic catarrh becomes so acrid, unhealthy, and poisonous, that it produces severe irritation and inflammation, which are followed by excoriation and ulceration of the delicate membrane which lines the air-passages in the head. Although commencing in this membrane, the ulceration is not confined to it, but gradually extends in depth, until it frequently involves all the component structures of the nose—cartilage and bone, as well as fibrous tissues. As the ulceration extends up among the small bones, the discharge generally becomes profuse and often excessively fetid, requires the frequent use of the handkerchief, and renders the poor sufferer disagreeable to both himself and those with whom he associates. Thick, tough, brownish incrustations, or hardened lumps, are many times formed in the head, by the evaporation of the watery portion of the discharge. These lumps are sometimes so large and tough that it is with great difficulty that they can be removed. They are usually discharged every second, fourth, or fifth day, but only to be succeeded by another crop. Portions of cartilage and bone, or even entire bones, often die, slough away, and are discharged, either in large flakes, or blackened, half-decayed, and crumbly pieces; or, as is much more commonly the case, in the form of numerous minute particles, that escape with the discharge and are unobserved. It is painfully unpleasant to witness the ravages of this terrible disease, and observe the extent to which it sometimes progresses. Holes are eaten through the roof of the mouth, and great cavities excavated into the solid bones of the face; in such cases only the best and most thorough treatment will check the progress and fatal termination of the disease.

COMPLICATIONS.

Catarrh, or ozæna, is liable to be complicated, not only by the system, blood, and fluids, suffering from scrofulous or other taints, as has already been pointed out, but also by an extension of the diseased conditions to other parts beyond the air-passages of the head.

Occasionally deformities of the septum or other internal structures,

also polypi or tumors, are sources of constant irritation and accelerate catarrhal disease.

Disease of the Throat. The acrid, irritating and poisonous discharge, which, in some stages of disease, almost constantly runs down over the delicate lining membrane of the *pharynx* (throat), is liable to produce in this sensitive membrane a diseased condition similar to that existing in the air-passages of the head. The throat may feel dry, husky, and at times slightly sore or raw; or, from the muco-purulent discharge that is almost constantly dropping down over its surface, the patient may feel very little inconvenience from the disease of the throat until it is far advanced—the moistening and lubricating effect of the matter that drops on the surface tending to blunt the sensibility of the parts. (*See pharyngitis for symptoms and treatment.*)

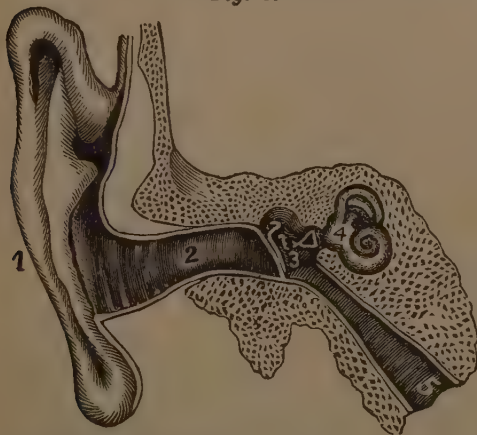
The Extension of the Disease to the Larynx. The larynx, situated directly below the pharynx (throat), is subjected to the influence of the same irritation from acrid and poisonous discharges dropping into the throat from the head. More or less of it is removed by hawking and spitting, but some remains and is drawn into the larynx, or still lower into the trachea (windpipe), with the inspired air. Thus the disease creeps along the continuous mucous surfaces of the air-passages, the acrid poisonous discharge arousing in its track the irritation, inflammation, ulceration, and thickening of the lining membrane which characterize the disease in other portions of the air-passages. The symptoms and treatment of laryngitis will be found under its appropriate classification.

Bronchitis and Consumption. We have already detailed the manner in which the throat, larynx, and trachea, in succession, become affected from catarrh, or *ozæna*. By the same process of extension, the bronchial tubes, and lastly, the *parenchyma*, or substance of the lungs, in their turn, become diseased, and bronchitis and consumption are firmly established. Tightness in the chest, with difficulty of breathing; soreness; darting, sharp, or dull, heavy pain, or a prickly, distressing sensation, accompanied with more or less cough and expectoration—are evidences that the bronchial tubes have become affected, and they should admonish the sufferer *that he is now standing on the stepping-stone to CONSUMPTION*, over which thousands annually tread, in their slow journey to the grave.

Deafness. By means of a small canal, called the *eustachian tube*, an air-passage and communication between the throat and middle ear is formed. (See Fig. 8, on page 16.) This passage is lined by a continuation of the mucous membrane which covers the throat and nasal passages. The catarrhal inflammatory process, by continuity of surface, follows the mucous membrane, thickening its structure, until the eustachian tube is closed, and the beautiful mechanism of the internal ear is rendered useless. While the thickening of the mucous membrane is going on, and the passage is gradually becoming closed (and

this process sometimes extends through several years), the patient will occasionally, while blowing the nose, experience a crackling in one or both ears, and hearing becomes dull, but returns suddenly, accom-

Fig. 8.



Internal and external ear. 1, External ear. 2, Internal auditory meatus. 3, Tympanum. 4, Labyrinth. 5, Eustachian tube.

sometimes detached from their articulations, the drum is ulcerated and perforated, and through the orifice thus made, the bones or small *spiculæ* may escape with the thick, purulent, and offensive discharge.

Closure of the Tear Duct. The lachrymal duct, or passage (tear duct), which, when in a healthy condition, serves to convey the tears from the eye into the nose, may be closed by the same inflammatory and thickening process which we have already explained. This condition is usually attended with watery and weak eyes, the tears escaping over the cheeks, and sometimes producing irritation and excoriation. The nasal branch of the ophthalmic nerve sometimes participates in the ulceration going on in the head, so that the eyes are sympathetically affected. They sometimes become congested or inflamed, and sharp pain in the eyeballs may be experienced.

Indigestion, Dyspepsia, Etc. A large portion of the acrid, poisonous, purulent discharge, which drops into the throat during sleep, is swallowed. This disturbs the functions of the stomach, causing weakness of that organ, and producing indigestion, dyspepsia, nausea, and loss of appetite. Many sufferers complain of a very distressing "gnawing sensation" in the stomach, or an "all gone," or "faint feeling," as they often express it.

Symptoms. Dull, heavy headache through the temples and above

panied with a snapping sound. This may be repeated many times, until, finally, hearing does not return, but remains permanently injured. In other cases the hearing is lost so gradually that a considerable degree of deafness may exist before the person is really aware of the fact. Either condition is often accompanied with noises in the head, of every conceivable description, increasing the distress of the sufferer. The delicate

bones of the ear are

the eyes ; indisposition to exercise ; difficulty of thinking or reasoning, or concentrating the mind upon any subject ; lassitude ; indifference respecting business, lack of ambition or energy ; obstruction of nasal passages ; discharges voluntarily falling into the throat, sometimes profuse, watery, acrid, thick and tenacious, mucous, purulent, muco-purulent, bloody, concrete blood and pus, putrid, offensive, etc. In others, a dryness of the nasal passages : dry, watery, weak, or inflamed eyes ; ringing in the ears, deafness, discharge from the ears, hawking and coughing to clear the throat, ulcerations, death and decay of bones, expectoration of putrid matter, *spiculæ* of bones, scabs from ulcers leaving surface raw, constant desire to clear the nose and throat, voice altered, nasal twang, offensive breath, impairment or total deprivation of the sense of smell and taste, dizziness, mental depression, loss of appetite, nausea, indigestion, dyspepsia, enlarged tonsils, raw throat, tickling cough, difficulty in speaking plainly, general debility, idiocy, and insanity.

All the above symptoms, as well as some others which have been previously given, and which it is not necessary here to repeat, are common to this disease in some of its stages or complications ; yet thousands of cases annually terminate in consumption or chronic bronchitis, and end in the grave, without ever having manifested one-half of the symptoms enumerated.

Varieties. People often suppose that there are a great many varieties or species of catarrh. This is an error. The nature of the disease is the same in all cases, the symptoms only varying with the different stages of the disorder, and the various complicated conditions which are liable to arise, and which have already been pointed out.

Causes. Anything which debilitates the system, or diminishes its powers of evolving animal heat and withstanding cold or sudden changes of atmospheric temperature, and other disease-producing agencies, renders the individual thus enfeebled very liable to catarrh. Among the most common debilitating agencies are a scrofulous condition of the system, or other impurities of the blood, exhaustive fevers, and other prostrating acute diseases, or those badly treated ; exhaustive and unnatural discharges, intemperance, excessive study, self-abuse, adversity, grief, want of sleep, syphilitic taints of the system, which may have been contracted unknowingly, or may have been inherited, having perhaps been handed down even unto the third or fourth generation, to an innocent posterity from infected progenitors ; too sudden rest after great and fatiguing exercise, and living in poorly-ventilated apartments. These are among the most fruitful causes of those feeble, deranged, or impure conditions of the system to which catarrh so frequently owes its origin. Although the immediate or exciting cause is generally repeated attacks of "cold in the head," which, being neglected or improperly treated, "go on from bad to worse," yet the predisposing or real cause of the disease is, in the majority of cases,

an enfeebled, impure, or otherwise faulty condition of the system, which invites the disease, and needs only the irritation produced in the nasal passages by an attack of cold, to kindle the flame and establish the loathsome malady. Some people are convinced with difficulty that there exists in their system a weakness, impurity, or derangement of any kind, which permitted the disease to fasten itself upon them. They may not feel any great weakness, may not have any pimples, blotches, eruptions, swellings, or ulcers, upon their whole person; in fact, nothing about them that would, except to the skilled eye of the practical and experienced physician, indicate that their system is weakened or deranged with bad humors; and yet such a fault may, and generally does, exist. As an ulcer upon the leg, or a "fever-sore," or

Fig. 9.



Examination of the Nasal Passages by means of the Rhinoscope and Head Mirror.

an eruption upon the skin, may be the only outward sign of a fault in the system, so frequently chronic catarrh is the only sign by which a bad condition of the system manifests itself in a manner that is perceptible to the sufferer himself, or to the non-professional observer. The finely-skilled physician, whose constant practice makes his perceptive faculties perfect in this direction, would detect the constitutional fault, as an experienced banker detects a finely-executed and dangerous bank-note which the unpracticed eye would pronounce genuine.

Treatment. If you would remove an evil *strike at its root*. As the predisposing or real cause of catarrh is, in the majority of cases, some weakness, impurity, or otherwise faulty condition of the system, in treating the disease our chief aim must be directed to the removal of that cause. The more we see of this odious disease, the more do we see the importance of combining with the use of a local, soothing

and healing application, a thoro and persistent internal use of blood cleansing and tonic medicines.

As a local application for healing the diseased condition in the head, Doctor Sage's Catarrh Remedy is mild and pleasant to use, producing no smarting or pain, and containing no strong, irritating, or caustic drug, or other poison. Its ingredients are Menthol, Resorcin, Carbolic Acid, Berberis Aquifolium, Salt. Coloring matter, trace. The Remedy is a powerful antiseptic, and speedily destroys all bad smell which accompanies so many cases of catarrh, thus affording great comfort to those who suffer from this disease.

The reader's mind cannot be too strongly impressed with the importance of combining thoro constitutional with the local treatment of this disease. Not only will the relief be thus more surely, speedily and permanently effected, but you thereby guard against other forms of disease breaking out, as the result of humors in the blood or constitutional derangement or weakness.

In treating catarrh and all the various diseases with which it is so frequently complicated, as throat and bronchial diseases, weak stomach, catarrhal deafness, weak or inflamed eyes, impure blood, scrofulous taints, the wonderful powers and virtues of Dr. Pierce's Golden Medical Discovery cannot be too strongly extolled. It has a beneficial effect upon the lining mucous membranes of the nasal and other air passages, promoting the natural secretion of their follicles and glands, thereby softening the diseased and thickened membrane, and restoring it to its natural, thin, delicate, moist, healthy condition. As a blood-purifier, it is unsurpassed. As those diseases which complicate catarrh are diseases of the lining mucous membranes, or of the blood, it will readily be seen why this medicine is so well calculated to benefit them.

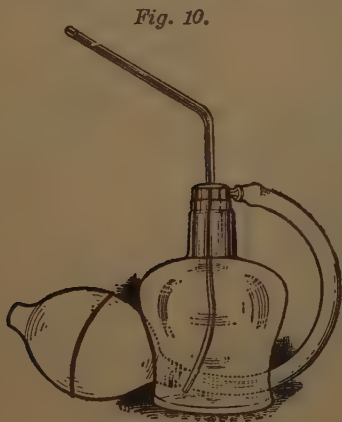
The "Golden Medical Discovery" is the natural "helpmate" of Doctor Sage's Catarrh Remedy. It not only cleanses, purifies, regulates and builds up the system to a healthy standard, and conquers throat and bronchial complications, when any such exist, but, from its specific effects upon the lining membrane of the nasal passages, it aids materially in restoring the diseased, thickened, or ulcerated membrane to a healthy condition, and thus eradicates the disease. When relief is effected in this manner it is usually permanent. The system is so purified, regulated and strengthened, as to be strongly fortified against the encroachments of catarrh and other diseases. The effects of the "Golden Medical Discovery" upon the system will be gradual, and the alterative changes of tissue and function generally somewhat slow. They are

not, however, less complete, radical, and lasting ; and this constitutes its great merit. Under its influence all the secretions are aroused to carry the blood-poisons out of the system, the nutrition is promoted, and the patient finds himself gradually improving in flesh ; his strength is built up, his lingering ailments dwindle away, and by and by he finds his whole person has been entirely renovated and repaired, he feels like a new man—a perfect being.

The Clothing. With most persons suffering from chronic nasal catarrh, there is a great disposition to take cold, even slight causes being sufficient to produce an acute attack, which greatly aggravates the chronic affection and operates to render it permanent. To obviate the bad effects that are liable to result from this predisposition, great

attention should be paid to the clothing, that it thoroughly protects the person from sudden changes of temperature. For more particular and practical suggestions in regard to this matter, the reader is referred to the article on Clothing, in Chapter II, page 257 of "The People's Common Sense Medical Adviser."

The Diet has an important influence with this disease, as with consumption and many other chronic ailments. It should be largely composed of those articles rich in the non-nitrogenized or carbonaceous



Atomizer.

elements. Fat meats, rich, sweet cream, good butter, and other similar articles of food, should comprise a large part of the diet. These elements, which are prolific in the production of animal heat, counteract the predisposition to take cold, and thus become most valuable remedial agents—not less essential than the medical treatment that has been advised. The patient, suffering from chronic catarrh, should study well the hygienic teachings to be found in Part Two of "The People's Common Sense Medical Adviser," and govern himself accordingly.

Treatment of Complications. There are various complications of this disease that require modifications of the treatment to meet them successfully. Yet rules cannot be made that would enable non-professional readers to vary the treatment to suit peculiarities of constitution, or complications of the disease. When consulted, either in person or by letter, we have been able to so modify the treatment as to adapt it to peculiar individual cases which resisted all ordinary treat-

ment, and have cured hundreds who had otherwise failed to find relief.

Time Required. Reader, if you are suffering from chronic nasal catarrh, do not expect to be very speedily cured, especially if your case is one of long standing. Unprincipled quacks and charlatans, who possess no knowledge of disease, or medicine either, and whose sole design is to palm off upon you a bottle or two of some worse than worthless strong, caustic solution, irritating

Fig. 11.



Steam Atomizer.

snuff, or drying "fumigator," "dry up," "annihilator," "carbolated catarrh cure," "catarrh specific," or other strong preparation, will tell you that the worst cases can be *speedily* cured by these unreasonable means. It is true that such strong, irritating, and drying preparations will many times suddenly arrest the discharge from the nose, but the thickened or ulcerated condition of the lining mucous membrane, which really constitutes the disease, is not removed by such treatment, and the discharge soon comes on again. Besides, there is danger attending the employment of such strong, irritating, or drying preparations. The disease, by their use, is frequently driven to the throat, bronchial tubes, lungs, or brain, and thus a bad matter is made worse. Not less irrational and unsuccessful is the plan of treating the disease with inhalations of "carbolyzed iodine," and other drugs, administered through variously-devised pocket and other inhalers. Such treatment may mask or cover up catarrh for a time;

but, by reason of the constitutional nature of the disease, it cannot effect a perfect and permanent cure. Dr. Sage's Catarrh Remedy, on the other hand, treats the disease on common-sense, rational, and scientific principles, by its mild, soothing, and healing properties, to which the disease gradually yields, when the system has been put in perfect order by the use of "Golden Medical Discovery." This is the only perfectly safe, scientific, and successful mode of acting upon and healing it. Without, we trust, being considered egotistical, we can say that this opinion is based upon a large experience and a perfect familiarity with the nature of the disease. For many years our time and attention have been given to the study of catarrh and other chronic diseases treated of in "The People's Common Sense Medical Adviser." Cases of catarrh have been treated by thousands, and our medicines for this loathsome disease, and for other chronic diseases, have met with an extensive sale in all parts of the United States, and have found their way into many foreign countries. The universal satisfaction with which their use has been attended, and the grateful manifestations received, have afforded us one of the greatest pleasures. Scarcely a mail arrives that does not bring new testimony of relief effected by the treatment here recommended.

DIRECTIONS FOR USING DOCTOR SAGE'S CATARRH REMEDY.

To prepare the medicine ready for use, put the whole quantity of powder contained in the package, as put up for sale, into a bottle; pour into it one pint of cool, soft water. Rain water or melted snow is good. Ordinary lake, river, well or spring water will do if only *slightly* hard. Cork the bottle tightly and shake it thoroughly, after which allow it to stand six or eight hours to settle. Two of the ingredients of which the remedy is composed do not entirely dissolve, but their medicinal properties are completely and speedily extracted and taken up by the water. It should be kept tightly corked, not allowing it to freeze in winter, or be kept where it is very warm in summer. This we term the "Catarrh Remedy Fluid."

Use the fluid, prepared according to the above directions, not less than three or four times a day, the last time just before retiring, in the following manner: Without shaking the bottle to roil the fluid, pour out a teaspoonful or more into the hollow of the hand, hold it there until warmed; first gently, and afterwards forcibly, snuff the fluid up one nostril and then the other, until the nose is well filled and it passes back into the throat. No fears need be entertained that it will produce strangling or any unpleasant effect in thus using it, for, unlike any other fluids (simple tepid water not excepted), it does not produce the slightest pain or disagreeable feeling, but, on the

contrary, leaves such a cooling, pleasant sensation that its use soon becomes a pleasure rather than a task. In a few minutes after thus using the remedy, it should be blown out gently (never forcibly), to clear the nose and throat of all hardened crusts and offensive accumulations, if any such exist. (Never blow the nose violently, as it irritates the passages and counteracts, to some extent, the beneficial effects of the remedy.) This process should be repeated until the remedy has been thoroughly applied two or three times, not blowing it out the last time of using it, but retaining the medicine in contact with the affected parts for a considerable length of time. No harm can result if the fluid be swallowed, as it contains nothing poisonous or injurious.

A Better Way. The manner of using Dr. Sage's Catarrh Remedy, advised above, is somewhat imperfect and not nearly so thorough a mode as the one to which the reader's attention will now be directed.

DIRECTIONS FOR USING DR. SAGE'S CATARRH REMEDY WITH THIS INSTRUMENT.

To cleanse out the passages previous to applying the Catarrh Remedy fluid, take one quart of soft water, add to it two large table-

Fig. 12.

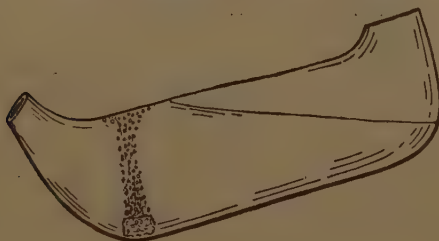


This cut illustrates the manner of using Dr. Pierce's Nasal Douche.

spoonfuls of common salt, and shake it up occasionally until all is dissolved. Before use heat it until blood warm, or, in other words,

until it gives a pleasant, mild warmth to the inserted finger. Put the reservoir on a shelf, or hang it up, so that it will be a little higher than the head; fill the reservoir with salt and water, pressing the tube between the thumb and finger so as to prevent the fluid from escaping through it; introduce the nozzle at the end of the tube into one nostril, pressing it in far enough to close the entrance of the passage so that no fluid can escape by the side of the tube, breathe through the mouth, avoid swallowing, and allow the fluid to flow. The soft palate, by the act of breathing through the mouth, is elevated so as to completely close the passage into the throat, and thus the fluid is made to flow up one nostril in a gentle stream, to pass into and thoroughly cleanse all the sinuses, or cavities, connected with the nasal passages, and to flow out of the other nostril. Care should be taken to bend the head down and forward and thus prevent the fluid from entering the eustachian tubes.

DR. SAGE'S CATARRH REMEDY CAN ALSO BE USED
WITH DR. PIERCE'S GLASS IRRIGATOR.



Send 65 cents for Glass Irrigator with Dr. Sage's Catarrh Remedy in Tablet form.

To use, empty the Irrigator of the Tablets and keep them in the box in which the Irrigator is packed. They should be kept in a dry place. If the air is very moist keep them in a small glass fruit-jar or tightly stoppered bottle.

Directions. — Put one of the Compressed Tablets of Dr. Sage's Catarrh Remedy in the glass Irrigator filled with water that has recently been boiled.

As soon as the Tablet has dissolved, introduce the tip of the Irrigator (as shown in the illustration on page 486,) into the nostril. It will close the entrance of the passage so that no fluid can escape by the side of the tube. Breathe through the mouth, avoid swallowing, and allow the fluid to flow. The soft palate, by the act of breathing through the mouth, is elevated so as to completely close

the passage into the throat, and thus the fluid is made to flow up one nostril in a full, gentle stream, to pass into and thoroughly cleanse all the sinuses, or cavities, connected with the nasal passages, and to flow out of the other nostril. Care should be taken to bend the head down and forward and thus prevent the fluid from entering the eustachian tubes.

Do not forget that the instrument will not work properly, unless you *breathe through the mouth and avoid swallowing* when letting the fluid flow.



Illustrating manner of using Dr. Pierce's Nasal Irrigator.

If the Tablets have been subjected to moisture they will fall to powder but their medicinal virtue is not changed.

A quantity of the powder equalling a Tablet in size should in this case be used.

This is about as much as can be held on a ten-cent silver piece.

About the same quantity of Dr. Sage's Catarrh Powder can be used dissolved in a glass douche full of water.

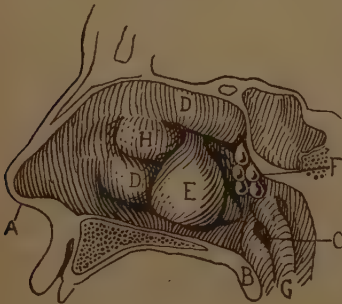
A solution very similar to Dr. Sage's Catarrh Remedy has been found the most healing of applications to injuries and burns resulting from the war.

The tissues affected are kept constantly moistened with the solution and such are its virtues that they have been found to heal with great, almost marvelous, rapidity.

NASAL POLYPUS.

The term Nasal Polypus is usually given to a variety of growths which are met with in the nasal passages far more frequently than any other tumors. They are thus designated because of their fancied resemblance to the aquatic polypus. They occur singly, or in clusters, as illustrated in Fig. 13. In the early stages the mucous membrane is swollen and irregularly dilated, presenting a rough and mottled appearance not unlike chronic catarrh with which they are usually associated. Gradually these mound-like tumors enlarge, usually becoming pendulant, and presenting a grayish opaque glistening surface, similar to the pulp of a grape. Occasionally they become massive at the point of attachment, and assimilate a warty or cauliflower growth.

Fig. 13.



NASAL POLYPI.

A. Anterior opening of the nostril. B. Soft Palate, C. Orifice of the Eustachian tube. D, D'. Superior and inferior turbinated bodies. E. Large Polypus. F. Several small Polypi. G. Throat. H. Polypoid growth on turbinated body.

The latter variety is better supplied with blood vessels and presents a red or dark pink surface and may bleed on slight irritation. The favorite location is beneath or behind the middle or superior turbinated bodies, oftentimes nearly or quite concealed. However, no portion of the mucous membrane lining the upper air passages is exempt. Sometimes they grow from the roof of the nostril and pharynx in pendulous masses, assuming the shape of the cavities, filling the entire nostril and upper portion of pharynx. The mucous membrane covering the turbinated bodies may become dilated and swollen, finally developing by catarrhal processes into a polypus at that point. (See H, Fig. 13.)

Causes. Nothing definitely is known regarding their causation. They are generally supposed to originate in some constitutional derangement, impairing the nutrition of the mucous membranes. Other cases are closely associated with chronic nasal catarrh, and frequent attacks of cold in the head.

Symptoms. These may vary considerably in different cases due to the character and location of the polypus. In the early stages before the tumor is well developed, the symptoms may be those of nasal catarrh, and the diagnosis of polypus be possible only after a personal examination by a skillful specialist. Neither is the size of the polypus

always in proportion to the severity of the symptoms. The nasal discharge is generally increased and of a variable character. As the tumors enlarge they cause a sense of fullness and weight between and below the eyes, with more or less headache and facial neuralgia. There is partial or complete obstruction of one or both nostrils. In some cases the obstruction changes from one nostril to the other when lying down; the stoppage generally being on the side toward the pillow. A polypus located at the junction of the nasal passages and throat by force of gravity always causes obstruction to the lower nasal cavity when lying down. Polypi often attain considerable size and occasion hideous facial deformity. Changes in the weather often aggravate the symptoms; the patient usually feels best in dry weather. By blowing the nostril the tumor sometimes may be forced forward, so that it may be seen through the nostril. Deafness often results and the sense of smell may be diminished or entirely lost. The *voice* is often affected, being muffled or harsh in tone, similar to that which accompanies a cold in the head. *Respiration* may be considerably embarrassed, due to the obstruction in the nasal passages, and the patient necessarily resorts to mouth breathing. In advanced cases the Larynx is usually much congested, being constantly irritated by excoriating discharges dropping in the throat from behind the palate. Thus it is plain to understand how chronic Pharyngitis, Laryngitis, Bronchitis, and Asthma may result from a small polypus in the nasal cavity.

Treatment. In mild cases correcting the constitutional derangement may check the morbid process in the nostrils and cause absorption of the polypus growth. For this purpose Dr. Pierce's Golden Medical Discovery is unequalled. The removal of the polypus may sometimes be accomplished by snuffing powdered blood-root. When these measures fail it is necessary to seek surgical assistance. After the removal of the polypus Dr. Sage's Catarrh Remedy should be used to prevent a recurrence.

OUR OPERATION FOR NASAL TUMORS.

Having operated with unvarying success upon a very large number and variety of nasal tumors at the Invalids' Hotel and Surgical Institute we are positively assured that the means and methods which we employ are neither severe nor dangerous; *little pain*, consequently *no shock*; recovery rapid and permanent. Many forms of injection and local treatment are in use for the removal of nasal polypi, none of which have proven to be curative; recurrence of the tumor many times following such treatment. Many cases have presented themselves after having been treated by the heroic method of seizing the polypus with a pair of forceps and forcibly tearing it loose, bringing with it segments of healthy tissue, leaving bone exposed, and a ragged, uneven surface of diseased membrane, It is much easier to properly

treat a case from the beginning than to undertake it in such a condition.

Owing to the fact that these nasal tumors grow directly from the lining membranes it is necessary not only to thoroly remove the tumor but to treat the diseased membrane at the point from which the polypus springs; otherwise another tumor may develop at the same point. The nasal passage having been thoroly benumbed, by the use of a local anæsthetic, the nasal speculum is introduced, and by means of reflected light from the head mirror worn by the operator, the interior of the nostril is brought to view. (See Fig. 9, on page 479.) Often the attachment of the growth is entirely hidden behind the irregular bony structures of the nostril so that it requires the skill of an expert specialist, deft in the manipulation of these parts, to operate properly.

Many styles and shapes of delicately devised instruments are necessary to completely remove the growth without doing injury to adjacent structures. By our newly devised operation the tumor is at once removed, with little, if any pain, and with the loss of only a small quantity of blood. Further, because the tumor is entirely removed and the base properly treated there is not the offensive discharge for a long time afterward and the danger from infection and blood-poison to which the patient is subjected in other forms of treatment.

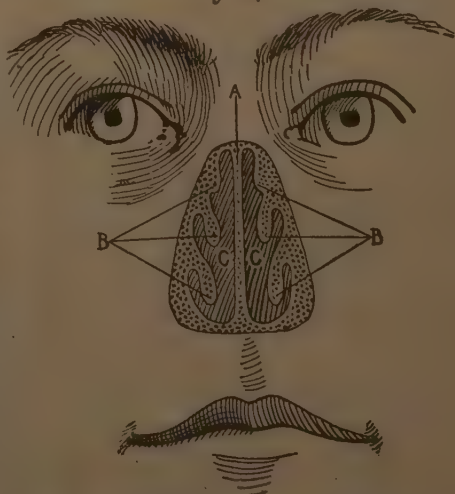
In conclusion we would say that we claim for our operation the following points that are worthy of the careful consideration of every one who may be so unfortunate as to require the services of a specialist for the removal of growths in the nasal or upper air passages:

- 1st. Our operation is practically painless in all but the most sensitive.
- 2d. No chloroform or ether is required.
- 3d. We insure perfect removal of growth.
- 4th. There is no injury to other adjacent structures.
- 5th. The recovery is rapid.
- 6th. There is no slough to produce pus that may be absorbed and cause blood-poisoning.

DEFORMITY OF THE NASAL SEPTUM.

In health the nasal septum is a bony or cartilaginous plate, as shown in A, Fig. 14, dividing the nasal passages into two cavities of the same size and shape. This plate or partition is also a support to which the flexible structures which form the tip of the nose are attached. In early life the septum is flexible and may be bent or doubled by injury to the nose; but owing to its elasticity usually resumes its natural position and shape. After maturity any dislocation or change in this bony plate usually remains permanent unless some means are employed for its correction. In a limited number of cases supposed to be chronic nasal catarrh, we have found upon examination that one or both nasal cavities were more or less obliterated and obstructed by the deformed and thickened septum. (See A, Fig. 15.) Many of these cases date from an injury to the external parts, causing only bleeding from the nose and a slight pain for a short time. Chronic inflammation develops at the point where the bone is bent or cracked, resulting in thickening, often producing nodules or spur-like

Fig. 14.



Anterior view of the healthy nasal passages as seen with the projecting portion of the nose removed.

A. Vertical septum or bony plate separating nostrils. B, B. Turbinated bodies. C, C. Nasal passages.

breathing, but also act as irritants to the adjacent delicate membranes and produce many of the symptoms common to nasal catarrh.

Among other common causes are imperfect development of the nasal bones, due to inherited influences, pressure from tumors, and local ulcerative disease, weakening or destroying the bone.

Symptoms. The location and extent of the deformity of the nasal septum necessarily gives opportunity for a variety of symptoms. In aggravated cases the nose appears to be bent toward one side. In the earlier stages there is an excess of mucous secretion, often dropping

into the throat from behind the palate. The discharge is variable as in nasal catarrh with more or less difficult nasal breathing, the stoppage changing from one nostril to the other. Sneezing and frequent attacks of nose bleed are often common symptoms. The tendency of the disease is to extend backward often causing headache, deafness, roaring in the ears and post-nasal disease which results in a chronic sore throat, the latter disease often being the one for which the patient seeks advice. If allowed to progress uninterruptedly the throat gradually becomes more irritable, associated with an annoying cough, and the voice becomes harsh and has a nasal tone. The general health is impaired, the nervous system excitable; laryngitis, asthma, and lung disease become complications, which render the existence of the individual miserable.

Treatment. In mild cases where the deformity is slight, and the obstruction is not a constant symptom, the nasal cavities should be cleansed (See treatment of nasal catarrh) after inhaling dust, and special attention given to the prompt treatment of cold in the head. Should there be irritability, sneezing, or a constant discharge, it is advisable to use Dr. Sage's Catarrh Remedy as directed on page 484 to soothe the excitability and lessen the inflammatory action in and about the thickened and deformed septum. As an auxiliary to promote the absorption of the thickened tissues and restore them to a healthy activity, a number of bottles of the "Golden Medical Discovery" should be taken while using the local treatment. Any dormant condition of the liver or digestive tract may be corrected by taking Dr. Pierce's Pleasant Purgative Pellets. In advanced cases after the structures are so diseased and thickened that it renders local treatment hopeless, only surgical interference can prove curative.

OUR PAINLESS OPERATION.

By the application of a few drops of our local anæsthesia in the nostril, at the point to be treated, we are now able to render the operation nearly painless without the administration of either chloroform or ether. This is an important consideration as many are adverse to taking chloroform or ether, and now that we possess an agent that produces, locally, complete insensibility to pain, we are very glad to dispense with their use in all such minor operations. There is no pain caused even by the application of the anæsthetic to deaden the sensibility of the part. Many examinations of the upper air-passages heretofore very annoying and even painful to the patient and sometimes unsatisfactory, are rendered nearly painless, and carried out with a thoroughness that would be impossible without the use of this wonderful agent. Not only in surgery of the nose and throat but alike in other departments, our surgeon-specialists employ the same local anæsthetic in all minor operations, most of which are not attended with pain.

We regard our special form of anæsthesia as a great boon to our patients, and never withhold it in any case where it can be employed to prevent suffering. Its use is attended with no danger, nor is it followed by bad or disagreeable results.

OUR OPERATION.

The nostrils being the entrance to and the beginning of the air passages no dexterity and skill can be spared in treating and properly correcting any deformity that may exist. Mutilation of these sensitive structures is sure to be followed by serious reflex symptoms in adjacent parts.

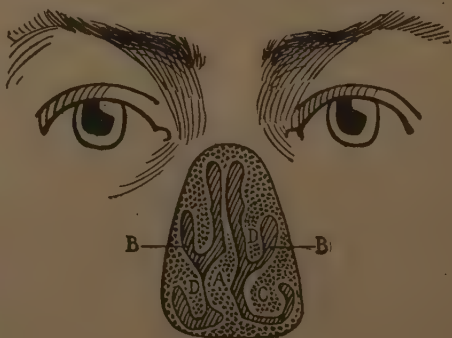
Consequently cases of this nature should only be entrusted to the care of a competent and experienced specialist. Our resources and appliances are unlimited. We adjust the form of operation to the requirements of each case.

As in the treatment of other pathological growths in the upper air passages the rhinoscope is indispensable. The parts can only be brought into the view of the operator by means of this instrument and sets of mirrors to reflect light on all sides of the deformed and hidden parts.

By our operation both nasal cavities are restored to their normal size and contour (compare Figs. 14, 15), unhealthy and diseased tissues are removed, and free nasal respiration established.

All treatments are carried out under strict aseptic precautions, thus reducing the danger from absorption of poisonous secretions to the minimum. By our skillful and ingenious management of these cases we never have had a single patient manifest any serious symptoms after operation. In such cases we consider this the only safe, practical, and permanent cure. Every year hundreds pass out of existence,

Fig. 15.



Anterior view of deformed nasal passages as seen with the projecting portion of the nose removed.

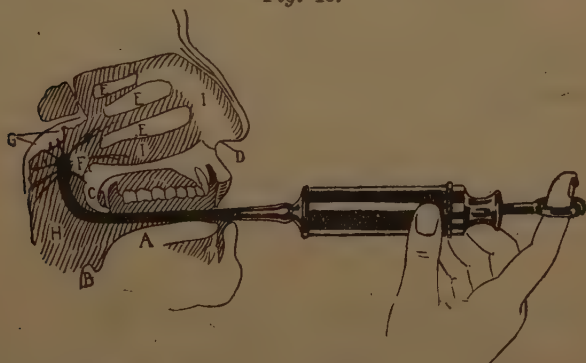
A. Deformed and thickened septum or bony plate separating nostrils. B, B. Irregular and obstructed nasal passages. C. Diseased and swollen turbinated body. D, D. Turbinated bodies crowded back by septum.

the victims of incurable disease of the air-passages resulting from morbid nasal conditions, who might be saved by proper and timely treatment.

PHARYNGITIS AND POST-NASAL CATARRH.

Simple chronic pharyngitis seldom exists alone and uncomplicated ; most cases being the result of previous existing disease of the nasal or post-nasal passages. Many cases are associated with hypertrophy, or enlargement, of the tonsils. Usually the disease is located in the upper part of the pharynx, or throat, behind and above the uvula and soft palate, and is thus hidden from view when looking into the throat through the mouth. When not associated with nasal catarrh the common

Fig. 16.



Use of the Post-nasal Syringe in the treatment of Post-nasal Catarrh.

A. Tongue. B. Epiglottis. C. Soft palate. D. Anterior opening of the nostril. E, E, E. Turbinated bodies. F. Junction of the nasal passage and throat. G. Diseased and roughened mucous membrane. H. Throat or Pharynx. I, I. Interior of nasal passage.

symptoms are dropping of tenacious mucous in the throat, causing a constant desire to hawk and spit ; sense of dryness in this region ; cough and expectoration on rising in the morning, which is due to the irritability of the throat, and may invade the lower air-passages. The throat may be studded with red and thickened patches of its mucous membrane. Respiration may be embarrassed, the voice affected and the general health gradually decline. The membrane above and behind the palate is angry, reddened, thickened and roughened, as represented in G, Fig. 16.

Treatment. To rationally treat a disease, attack the cause. Therefore, in an uncomplicated case of post-nasal disease of the pharynx the medicine should be applied at this point. For this purpose we rec-

commend the regular and continuous use of Dr. Sage's Catarrh Remedy administered preferably by means of the post-nasal syringe as illustrated in Fig. 16. (Price, by mail, \$2.00.) When using Dr. Sage's Catarrh Remedy Tablets, dissolve one in sufficient warm water to fill the post-nasal syringe twice.

The efficacy of Dr. Sage's Catarrh Remedy as a curative agent in catarrh of mucous membranes is unequaled if the medicine be properly and thoroly applied. The Catarrh Remedy fluid should be prepared as directed in the pamphlet which accompanies the medicine. Warm enough of the medicine to fill the syringe twice. After the syringe is filled with the warm medicine, introduce the curved tip behind the soft palate, holding the syringe as seen in Fig. 16; then incline the head forward over a wash bowl and empty the syringe by pressing the plunger quickly. The medicine will immediately come in contact with the diseased surfaces and pass out through the nostrils, thoroly medicating, disinfecting and cleansing the upper part of the throat and the posterior region of the nostrils. Two syringefuls of the medicine should be used for each treatment, and two or more applications made every day until a cure is effected.

At the same time the local treatment is being used, Dr. Pierce's Golden Medical Discovery should be taken to act through the blood upon the diseased tissues.

The Catarrh Remedy may be administered by means of the Nasal Douche, if the case is complicated by nasal catarrh. Should tumors or deformities exist, write to our Faculty for advice, which will be cheerfully given, free of charge.

ACUTE BRONCHITIS AND PNEUMONIA.

Acute bronchitis is a disease of common occurrence, and in its milder form may pass, in popular parlance, as a "cold on the lungs." It is really an inflammation of the mucous membrane lining the bronchial tubes. The disease is severe in proportion to the extent of surface involved. It may be limited to the bronchial tubes, or it may extend to their minute ramifications.

The Symptoms will vary with the intensity of the malady. In the milder type, there will be a sense of tightness and heat in the upper portion of the lungs. The air passages may seem raw, sore, or tender. Hoarseness and a dry, harsh, croupy cough, in the early stage, with free expectoration in the more advanced stage, are prominent symptoms; those common to coryza are also frequently present. If the disease is severe, the whole system sympathizes in the derangement. Cold chills run over the body, followed by flushes of fever. The pulse is rapid and hard, while the surface and extremities are cold. The bones ache, and there is general prostration. Unless timely aid be rendered a fatal termination may ensue.

Pneumonia or Lung Fever. This is an inflammation of the substance of the lungs. As the symptoms of this disease at the beginning, are quite similar to those of acute bronchitis, the treatment of the two maladies, in the initial stage, is about the same. Bronchitis constantly accompanies inflammation of the substance of the lungs, and the disease may also be complicated by inflammation of the pleura, when it is designated as pleuro-pneumonia. Sharp, lancinating pains in the chest are characteristic of this complication. As in pneumonia a far greater amount of tissue is involved in the inflammation than in bronchitis, the attendant symptoms will be correspondingly more severe.

Causes. These diseases are most frequently induced by a sudden check imposed upon the perspiration. Bronchitis sometimes results from the inhalations of irritating substances. It is many times a secondary result of eruptive fevers, whooping-cough and other debilitating diseases.

Treatment. The course of treatment to be employed in the early stages of these diseases will not essentially differ from that already given for influenza. The spirit vapor-bath, with very full doses of "Compound Extract of Smart-weed," hot fomentations applied to the chest, and two-drop doses of tincture or fluid extract of veratrum, repeated every hour, will generally break up the disease if resorted to early. Should the cough be dry and troublesome, three to five drop doses of tincture of fluid extract of lobelia may be given every two hours, with mucilaginous drinks, such as flax-seed or slippery-elm tea. If the active inflammation is arrested by this course of treatment and should the cough, at the same time, not fully subside, the "Golden Medical Discovery" should be taken until it is thoroughly subdued, for, if allowed to continue, it is liable to result in chronic bronchitis or consumption. Should the disease not yield *promptly* to the treatment here advised, the family physician should be summoned to take charge of the case.

ACUTE LARYNGITIS.

This is an acute inflammation of the upper portion of the wind-pipe, and is attended with considerable danger. Its causes are colds, suppression of perspiration, and such as generally give rise to inflammation.

The Symptoms are those common to inflammation and follow a chill. They are soreness or stiffness of the throat, difficulty of swallowing and a desire to clear the disordered organ. There is fever, the sense of constriction in the throat increases, the voice is harsh, hoarse or croaking, and there is frequently a hacking cough. The appearance of the throat is red and swollen, the voice alters and becomes small, shrill or whispering and suppressed, and the breathing more difficult.

If not relieved, delirium or coma come on and the patient dies of suffocation.

Treatment. This should be at once prompt and thorough, and similar in character to that recommended for inflammations elsewhere, viz., the spirit vapor-bath and hot foot bath to induce sweating, which should be kept up by Dr. Pierce's Compound Extract of Smart-weed. Diaphoretic infusions, sedatives with mucilaginous drinks, and hot packs to the throat, are all proper to be employed. The affection being very rapid and dangerous, if it does not quickly yield to this treatment, no time should be lost in securing skillful medical aid.

CHRONIC LARYNGITIS.

This is of much more frequent occurrence than the acute form, and is often associated with tubercular affections, and constitutional syphilis. It is characterized by an inflammatory condition, ulceration, or hardening of the mucous membrane of the larynx, most frequently the latter. There is also a chronic form, known as *follicular laryngitis*, or *clergyman's sore throat*, to which public speakers are subject.

The Causes of chronic laryngitis are various, as prolonged use of the vocal organs in reading or speaking; using them too long on one pitch or key, without regard to their modulation; improper treatment of acute diseases of the throat; neglected nasal catarrh; the inordinate use of mercury; syphilis; repeated colds which directly cause sore throat, injuries, etc. It is also frequently due to tubercular deposits, and in these cases it generally terminates in consumption.

Symptoms. The affection often comes on insidiously. There is soreness of the throat, noticeable particularly when speaking, and immediately thereafter; a "raw" and constricted feeling, leading to frequent attempts to clear the throat, in order to relieve the uneasy sensation. The voice becomes altered, hoarse, and husky, and there is a slight, peculiar cough, with but little expectoration. At first, the matter expectorated is mucus, but as the disease advances and ulceration progresses it becomes muco-purulent, perhaps lumpy, bloody, or is almost wholly pure pus. The voice becomes more and more impaired, and is finally lost. In the latter stages, it resembles consumption, being attended with hectic fever, night-sweats, emaciation, cough, profuse expectoration, and sometimes hemorrhage.

Treatment. The patient should avoid using his voice as much as possible. At the same time, attention should be paid to the diet, the bathing, and the clothing. Everything should be done that is calculated to build up and improve the general health. Dr. Pierce's Golden Medical Discovery is well adapted to remove morbid states of the disease, in consequence of its direct action on the mucous membranes of the air-passages, and its efficacy in allaying irritation of the

laryngeal, pharyngeal, and pneumogastric nerves. It should be perseveringly employed. Iodine inhalations, administered with the pocket inhaler, illustrated by Fig. 3, and the application of tincture of iodine to the forepart of the neck, are efficacious in many cases. Inhalations of chloride of ammonia, administered with a steam-atomizer, Fig. 11, in the form of spray, are frequently of great benefit. *Perseverance* is necessary, and the afflicted are cautioned against discontinuing the treatment too soon, for the disease is very liable to return.

CONSUMPTION.

PHTHISIS PULMONALIS, TUBERCULOSIS

By this we understand a constitutional affection, characterized by a wasting away of the body, attended by the deposition of tubercular matter into the lung tissue. Hence the appellations, *Phthisis Pulmonalis*; *Pulmonary Tuberculosis*; *Tubercular Consumption*. Tubercles may form in other organs and result in a breaking down of their tissues, but the employment of the term *Consumption* in this article is restricted to the lungs. The general prevalence, the insidious attack, and the distressing fatality of this disease, demand the special attention and investigation of every thinking person. It preys upon all classes of society. Rich and poor alike furnish its victims.

In New York City and New England at one time the percentage of the population suffering from tuberculosis was alarming, and, though science and modern methods have done a great deal, even now it is serious. "The campaign against this menace is," said the *Encyclopedia Americana*, "one of the most important public health issues of the day, and through it the eradication of the disease is expected." "During the last forty years," says the same authority, "the death rate of tuberculosis has fallen fifty percent, largely due to the public health efforts against it."

At the present time (1920) every important insane hospital in the United States, from East to West, from North to South, has special treatment and isolation for tubercular patients. In almost all the state hospitals the tubercular patients are living in tents, pavilions or cottages. There are, also, many schools for the feeble-minded and colonies for epileptics.

Anti-spitting laws are enforced in our cities, and there are open air schools for tubercular children. And now the cattle are carefully inspected. This is a long step in the right direction from the methods of forty years ago! Relatives of those afflicted with tuberculosis are urged to notify health authorities, so that they may receive the proper treatment given in many institutions. The great benefits derived from isolation and out-of-door treatment of tuberculosis have led to an increase in all the state institutions of special departments, such as pavilions, tents, cottages, etc.

Like the thief in the night, tuberculosis steals upon its victim unawares. In a large proportion of cases, its approach is so insidious that the early symptoms are almost wholly disregarded; indeed, they excite but little, if any, attention, and perhaps for a time

disappear altogether. Thus the patient's suspicions, if they have been aroused, are allayed and appropriate measures for his relief are discontinued. This may be the case until renewed attacks firmly establish the disease, and before the patient is fully aware of the fatal tendency of his malady, he is progressing rapidly towards that "bourne from which no traveler returns."

As has already been stated, consumption is a constitutional disease, manifested by feeble vitality, loss of strength, emaciation—symptoms which are too often classed under the name of *general debility*, until local symptoms develop, as *cough*, *difficult breathing*, or *hemorrhage*, when examination of the chest reveals the startling fact that tubercular deposits have been formed in the lungs. Invalids are seldom willing to believe that they have consumption, until it is so far advanced that all that medicine can do is to smooth the pathway to the grave. Another characteristic of this disease is *hope*, which remains active until the very last, flattering the patient into expectation of recovery. To the influence of this emotion, the prolongation of the patient's life may often be attributed.

NATURE OF THE DISEASE.

It is an error to suppose that the disease under consideration is confined to the lungs. "Pulmonary Consumption," as has been remarked, "is but a *fragment* of a great constitutional malady," The lungs are merely the stage where it plays its most conspicuous part. Every part of the system is more or less involved, every vital operation more or less deranged; especially is the *nutritive* function vitiated and imperfect. The circulation is also involved in the general morbid condition. Tubercles, which constitute a marked feature of the disease, are composed of collections of tubercle bacilli and inflammatory deposits surrounding them in the tissue of the lungs. They are small globules of a yellow, opaque, friable substance, of about the consistency of cheese. They are characteristic of all forms of scrofulous disease.

Causes. Under healthful conditions the system is perfectly protected against the entrance of the germ that produces this affection, and the blood contains, in health, substances that destroy the tubercle bacilli. These minute organisms were first shown by the eminent German scientist Koch to be the cause and always associated with this disease. Many animals are subject to the affection, particularly the cow, and there is a grave probability that milk from such animals may be the source from which tubercular poisoning may result. Away from light and sunshine the germ will live and if in suitable media thrive and grow. Damp sleeping-rooms that the rays of the sun can not penetrate, cellars and basements are the most favorable locations for its diffusion. Workers in-doors inhaling dust that may contain the disease germs, or sharp particles that may abrade the delicate membrane of the lungs or air passages and thus favor the entry into the system of the poison-

ous bacilli, are particularly subject to this infectious disease. Cattle in basement barns are very liable to its development. Sunshine, dryness and cleanliness are preventive of it. Plenty of fresh air, free from dust and dampness seems to overcome the spread of the disease. Well ventilated, sunny houses, schools, workshops and barns are likely to steadily diminish the death rate from this scourge of modern civilization which is called "*The Great White Plague.*"

PREDISPOSING CAUSES.

The Predisposing Causes are exposure to infection by the germs, dampness and dirt, lack of sunshine and cleanliness, insufficient pure, fresh air. The system if depressed by sedentary habits, over work, lack of food that nourishes easily and well, depressing emotions, in fact anything that depresses the vital forces and interferes with perfect nutrition. The disease does not seem to be hereditary, although parents may infect their children or transmit a weakened constitution that is prone to fall more easily a prey to the disease. Persons predisposed to the disease may escape by living a hygienic life in the open air.

Exciting Causes. The exciting causes are those which are capable of depressing the system so that the disease germ can gain entrance to the system and develop therein; such as dyspepsia, nasal catarrh, colds, suppressed or excessive menstruation, bronchitis, retrocession of cutaneous affections, measles, scarlatina, malaria, whooping-cough, small-pox, continued fevers, pleurisy, pneumonia, long-continued influence of cold, sudden prolonged exposure to cold, sudden suspension of long continued discharges, masturbation, excessive venery, wastes from excessive mental activity, insufficient diet, both as regards quantity and quality, exposure to impure air, atmospheric vicissitudes, dark dwellings, dampness, prolonged lactation, depressing mental emotions, insufficient clothing, improper treatment of other diseases, exhaustive discharges, tight lacing, fast life in fashionable society, and impurity and impoverishment of blood from any cause. This list might be greatly extended, but the other causes are generally in some manner allied to those already named.

Prevention. The sputum and other discharges from individuals suffering from this affection contain millions of the germs, which, dried and in the form of dust, may prove a dangerous source of infection to those exposed to their lodgement; hence all such material should be burned or treated with powerful disinfectants. In most cities it is a misdemeanor punishable by fine to expectorate on floors of public vehicles or buildings and on sidewalks. The death-rate from tuberculosis shows already a diminution and it is to be hoped that it will be steadily lessened by care on the part of those affected to avoid infecting others.

Symptoms. The symptoms of consumption vary with the progress of the disease. Writers generally recognize three stages, which so

gradually change from one to the other that a dividing line cannot be drawn. As the disease progresses, new conditions develop, which are manifested by new symptoms. Prior to the advent of pulmonary symptoms, is the latent period, which may extend over a variable length of time, from a few months to several years; and, indeed, may never be developed any farther. Until sufficient tubercular matter has been deposited in the lungs to alter the sounds observed on auscultation and percussion, a definite diagnosis of tubercular consumption cannot be made, even though there may have been hemorrhage. Nevertheless, when we find *pallor, emaciation, accelerated and difficult breathing, increased frequency of the pulse, an increase of temperature, and general debility* coming on gradually without any apparent cause, we have sufficient grounds for grave suspicions. These are increased if tenderness under the collar-bone, with a slight, hacking cough is present. These symptoms should be sufficient to warn any individual who has the slightest reason to believe that he is disposed to consumption, to lose no time in instituting the appropriate hygienic and medical treatment, for it is at this stage that remedies will be found most effective. Unfortunately, this period is too apt to pass unheeded, or receive but trifling attention; the patient finds some trivial excuse for his present condition, and believes that he will soon be well. But, alas for his anticipations! The disease goes onward and onward, gradually gaining ground, from which it will be with great difficulty dislodged.

The cough now becomes sufficiently harassing to attract attention, and is generally worse in the morning. The expectoration is slight and frothy; the pulse varies from ninety to one hundred and twenty beats in a minute, and sometimes even exceeds this. Flushes of heat and a burning sensation on the soles of the feet and palms of the hands are experienced. A circumscribed redness of one or both cheeks is apparant. These symptoms increase in the afternoon, and in the evening are followed by a sense of chilliness more or less severe. The appetite may be good, even voracious; but the patient remarks that his food "does not seem to do him any good," and, to use a popular expression, "he is going into a decline." As the strength wanes the cough becomes more and more severe, as if occasioned by a fresh cold, in which way the patient vainly tries to account for it. Expectoration increases, becomes more opaque, and, perhaps, yellow, with occasionally slight dots or streaks of blood. The fever increases, and there is more pain and oppression of the chest, particularly during deep respiration after exercise. Palpitation is more severe. There may now be night-sweats, the patient waking in the morning to find himself drenched in perspiration, exhausted, and haggard. Bleeding from the lungs occurs, and creates alarm and astonishment, often coming on suddenly without warning. The hemorrhage usually ceases spontaneously, or on the administration of proper remedies, and in a few days the patient feels better than he has felt for some time previ-

ously. The cough is less severe, and the breathing less difficult. Indeed, a complete remission sometimes occurs, and both patient and friends deceive themselves with the belief that the afflicted one is getting well.

After an indefinite length of time, the symptoms return with greater severity. These remissions and aggravations may be repeated several times, each successive remission being less perfect, each recurrence more severe, carrying the patient further down the road toward the "dark valley." Now the cough increases, the paroxysms become more severe, the expectoration more copious and purulent, as the tubercular deposits soften and break down. The voice is hollow and reverberating, the chest is flattened, and loses its mobility; the collar-bones are prominent, with marked depression above and below. Auscultation reveals a bubbling, gurgling sound, as the air passes through the matter in the bronchi, with the click, to the air cells beyond. Percussion gives a dull sound or if there are large cavities, it is hollow, and auscultation elicits the amphoric sound, as of blowing into a bottle. Hectic fever is now fully established; the eye is unusually bright and pearly, with dilated pupils, which gives a peculiar expression; the paroxysms of coughing exhaust the patient, and he gasps and pants for breath. The tongue now becomes furred, the patient thirsty, the bowels constipated, and all the functions are irregularly performed. Another remission may now occur, and the patient be able to resume light employment, for an indefinite length of time, which we have known to extend over three or four years, when the symptoms again return.

If the patient is a female, and deranged or suppressed menstruation has not marked the accession of pulmonary symptoms, the flow now becomes profuse and clotted, or is scanty and colorless, sometimes ceasing altogether. In the male, the sexual powers diminish, and copulation is followed by excessive and long-continued prostration. From this time onward, the progress of the disease is more rapid. The liver and kidneys are implicated. In addition to the pallor, the complexion becomes jaundiced, giving the patient, who is now wasting to a mere skeleton, a ghastly look. The urine is generally copious and limpid, though occasionally scanty and yellow. The pulse increases to one hundred and thirty or one hundred and forty beats in the minute, and is feeble and thread-like. The cough harasses the patient so that he does not sleep, or his rest is fitful and unrefreshing; whenever sleep does occur, the patient wakes to find himself drenched with a cold, clammy perspiration. The throat, mouth, and tongue now become tender, and occasionally ulcerate. Expectoration is profuse, purulent, and viscid, clinging tenaciously to the throat and mouth, and the patient no longer has strength to eject it. The hair now falls off, the nails become livid, and the breathing difficult and gasping; the patient has no longer strength to move himself in bed and has to be propped up

with pillows, and suffocates on assuming the recumbent position. Drinks are swallowed with difficulty. Diarrhea takes the place of constipation. The extremities are cold, swollen, and dropsical; the voice feeble, hollow, grating, husky, the patient gasping between each word; the respiration is short and quick. A slight remission of these symptoms occurs. The patient is more comfortable, lively, cheerful, and perhaps forms plans for the future. But it is the last effort of expiring vitality, the last flicker of the lamp of life, the candle burns brilliantly for a moment, and with one last effort goes out, and death closes the scene.

The duration of the active stage of consumption varies from a few weeks to several years, the average time being about eighteen months.

Cough is always a prominent symptom throughout the entire course of the disease, varying with its progress.

Expectoration, at first scanty, then slightly increased, colorless, frothy, and mucous, is also a characteristic. After a time it becomes opaque, yellow, and more or less watery; then muco-purulent and finally purulent, copious, and viscid. When tubercular matter is freely expectorated, with but little mucus, it sinks in water. This symptom continues to the very last.

Hæmoptysis (bleeding from the lungs) may occur at any stage of the disease, often being the first pulmonary symptom noticed, again being delayed until late; and there are cases in which it does not happen at all. It seldom occurs in any other disease.

Night-sweats may occur at any stage, though they are rarely experienced until the disease is pretty well established, and are very exhausting.

Hectic Fever generally occurs soon after the pulmonary symptoms are developed, and increases in intensity with the progress of the disease. There are usually two paroxysms in twenty-four hours, one of which occurs towards evening and is followed by night-sweats.

Dyspnœa (difficult breathing) is at first slight, except after exertion, amounting to only a sense of oppression; but it becomes more and more severe as the disease advances, until the very last, when it is agonizing in the extreme.

Aphthæ, sometimes extending to the pharynx and larynx, generally occurs towards the last. The mouth and throat become so very sore and tender that nourishment and medicine are taken with difficulty.

Emaciation and Debility are characteristic of the disease. They fluctuate as the disease advances or is retarded, increasing to the very last.

Auscultation and Percussion constitute valuable means of diagnosis from the time tubercular matter begins to be deposited to the very last, and, when correctly practiced, reveal the extent and progress of the disease. As a knowledge of the sounds elicited can only be acquired by practical experience, with proper instruments, they will not

be described here. The only diseases with which consumption is likely to be confounded are general debility in the early stage, bronchitis, chronic pleurisy, chronic pneumonia, and abscess in the lungs, after the advent of pulmonary symptoms.

Curability. Notwithstanding the prevailing opinion that consumption is incurable, there exists ample, incontrovertible evidence to the contrary. Its curability is established beyond the shadow of a doubt. Individuals have recovered in whom there was extensive destruction of pulmonary tissue, and, indeed, entire destruction of one lung. Numerous instances are on record in which persons have suffered from all the symptoms of confirmed consumption, and have regained their health and subsequently died of other diseases. The case of the late Dr. Joseph Parish, of Philadelphia, affords a striking example of this kind. In early life, he manifested all the symptoms of confirmed consumption, including frequent hemorrhages, yet he fully regained his health, and, after a very useful life, died at an advanced age of another disease. Post-mortem examination revealed the existence of cicatrices, or scars, in his lungs where tubercular matter had been deposited. Dr. Wood, in his *Practice of Medicine*, mentions another instance of a medical gentleman in Philadelphia, who in early life suffered from consumption with hæmoptysis, from which he recovered, and afterwards died, at an advanced age, of typhoid fever, when the knife revealed the presence of cicatrices. Post-mortem examinations of individuals who have died of other diseases, have revealed, in numerous instances, the presence of consumption at some period of their existence. In these cases the lungs were perfectly healed by cicatrization, or by the deposit of a chalky material. A French physician made post-mortem examinations of one hundred women, all of whom were over sixty years of age, and who had died of other diseases, and in fifty of them he found evidences of the previous existence of consumption.

Professor Flint says that consumption sometimes terminates in recovery, and that his observations lead him to the conclusion that the prospect of recovery is more favorable in cases characterized by frequent hemorrhages. Drs. Ware and Walshe are also led to the same conclusion.

Professor J. Hughes Bennett, of Edinburgh, has thoroughly investigated the subject, and adds his testimony to that of others, citing numerous cases that have resulted in perfect recovery. If such testimony is not sufficient, we may mention the following, whose names are well known and respected in professional circles, and all of whom declare that consumption is a curable disease. The list includes Laennec, Andral, Cruveilhier, Kingston, Presat, Rogée, Boudet, and a host of others.

No farther back than 1866, on page 145, of the proceedings of the Connecticut Medical Society, we find "Observations, Ante-mortem and Post-mortem, upon the case of the late President Day by Prof. S. G.

Hubbard, M. D., New Haven," from which we learn that Jeremiah Day, LL. D., who was for twenty-nine years President of Yale College, was, while a mere youth, a victim of pulmonary consumption. During his infancy and boyhood his vitality was feeble. He entered Yale College as a student in 1789, "but was soon obliged to leave the institution on account of pulmonary difficulty, which was doubtless the incipient stage of the organic disease of the lungs which subsequently developed itself." He remained in feeble health for two years, but returned to college, and graduated in 1797. For the next six years his lung difficulties were quite severe, and he repeatedly bled in large quantities, but he had so far recovered in 1803, as to accept a Professorship. He was afterwards chosen President of the college, which office he held for many years, in the enjoyment of good health. He died from "old age," as we are told, in 1867, aged 94 years.

Statistics show that under the improved methods of treating this disease, the mortality, as compared with previous years, has been greatly reduced. Clinical observation proves that injuries to the lungs are not so fatal as was once supposed.

Treatment. The earlier the treatment of this disease is undertaken, the greater is the probability of success. The reason of this is obvious; at first the disease is general or constitutional, but as it advances, by the deposit of *tubercular matter*, it becomes both constitutional and local. Hence the treatment must be both *general* and *local*. The occurrence of certain prominent and distressing symptoms, either from the natural progress of the disease, or from complications with other affections, often renders it difficult, even for physicians, to determine how far their treatment should be general and how far local.

Treating the symptoms instead of the general disease, or treating the constitutional disease without regard to the symptoms which arise from it, is an error into which many physicians have fallen. The constitutional affection, the local manifestations and complications, and the circumstances and individual peculiarities of the patient, must all be carefully considered; bearing in mind all the while, that tubercular matter is the product of a morbid action, which, in every case, must exist before its deposition in the lungs, or any other tissue, can take place.

In every case in which curative treatment is to be instituted, the hearty and persistent co-operation of both patient and friends is absolutely necessary; and the treatment, which is both hygienic and medical in character, should have in view the following aims:

- (1.) The avoidance of the causes concerned in the production and perpetuation of the disease.
- (2.) The restoration of healthy nutrition, in order to stop the formation of tuberculous matter.
- (3.) The arrest of the abnormal breaking down of the tissues, and the prevention of emaciation.

(4.) The relief of local symptoms, and the complications arising from other diseases.

The fulfillment of the first indication, the avoidance of causes, is of the utmost importance, for if they have been sufficient to *produce* the disease, their continued operation must certainly be sufficient to *perpetuate* it. A single individual is very often subjected to the operation of several of the causes already enumerated, some of which, in consequence of circumstances and surroundings, are unavoidable. Of these, the one most difficult to overcome is climate.

Statistics have proven that life in the open air and sunshine of Colorado, New Mexico and the Adirondack Mountains tends to produce a change for the better. Sanitariums have been established for consumptives in these locations that show a large percentage of improvement and many recoveries, when the disease is not too far advanced before the change is made. The depressing effects of homesickness in such places however prevent the full improvement. Then too such institutions are very expensive and are frequently overcrowded. Fortunately it has been found that out-door life in any climate is almost equally as beneficial. Tents upon the house tops or sleeping in window tents are of the greatest benefit and such out-door tent dwellings may be fitted up any where for the consumptive to live in at a very moderate cost and it can be associated with all the home comforts and association of loved ones. A piazza of large size and southern exposure, screened to avoid heavy winds, rain and snow, is an excellent place for the invalid to spend the days, reclining, properly covered, and if possible in the sunshine, and sleeping therein out-doors at night. Exercise producing the slightest palpitation of the heart is to be avoided, while the food should be frequently given and of an easily digested character. In some institutions where the best results have been obtained a system of over-feeding or "stuffing," as it is called, has resulted in marked benefit.

That the diet be sufficient in quantity should be obvious to all. It is also necessary that it be nutritious, and that it should contain carbonaceous elements. Food of a starchy or saccharine character is apt to increase acidity, and interfere with the assimilation of other elements, therefore, articles, rich in fatty matters, should enter largely into the diet. The articles of food best adapted to the consumptive invalid are milk, rich cream, eggs, bread made from unbolted wheat-flour, and raised with yeast, cracked wheat, oatmeal, good butter, beef, game, and fowls. These contain the necessary elements for assimilation. Oily food is of great importance, and the beef eaten should contain a good proportion of fat. Plenty of salt should always be eaten with the food, and a desire for it is often experienced. Over-eating should be avoided, lest the stomach be induced to rebel against articles of diet rich in important elements.

Derangement of the process of nutrition requires careful attention,

and, if necessary, correction. For this purpose, nothing can excel Dr. Pierce's Golden Medical Discovery. It increases the appetite, favors the nutritive transformation of the food, enriches the blood, and thus retards the deposition of tubercular matter. It is so combined that, while it meets all these indications, it relieves or prevents the development of those distressing symptoms so common in this disease.

The "Golden Medical Discovery" is adapted to fulfill the third indication in the management of this disease, which is to check the abnormal breaking down and waste of tissues, which constitute such a prominent feature in this malady. The antiseptic properties of the "Discovery" are unmistakably manifested in preventing such abnormal decomposition. The emaciation, excessive expectoration, profuse perspiration, diarrhea, and hectic fever, common to consumption, are all due to a too rapid disintegration and waste of the tissues. It is in this condition of the system that this medicine, by its powerful antiseptic properties, manifests its most wonderful curative ability. When, as in this disease, the vital forces of the system have, in a degree, lost their restraining influence over the processes of disintegration, waste, and decay, which goes on so rapidly that nutrition cannot compensate for the loss to the system, then it is that the "Golden Medical Discovery," by its antiseptic influence, checks this rapid waste of the tissues, and thus arrests the disease. To the lack of employment of such a remedy in the treatment of consumption, the unparalleled fatality of the disease is largely due. In their anxiety to improve digestion and nutrition, and thus build up the tissues, physicians often lose sight of the no less important indication of restraining the destructive waste going on in the system, which overbalances the supplies furnished by absorption. The gradually increasing emaciation and loss of strength render perpetuity of the organism impossible.

The fulfillment of the fourth indication, to relieve local symptoms, and the complications with other diseases, is often attended with no little difficulty.

The Cough is a secondary symptom, arising from the irritation caused by the tubercular deposits. Medicated inhalations may give temporary relief, but cannot cure it. They strike at the branches of the disease, while the root is left to flourish and develop new branches.

Expectorants have been employed to a great extent, and the theories, which have been advanced in favor of their use, are sometimes very ingenious. That they modify the cough, we do not attempt to deny; but it is usually at a great expense, for they derange the stomach and interfere with digestion and assimilation.

Improvement of the general health is always attended with amelioration of the cough. If the patient did not cough at all, the lungs would soon fill up with broken-down tissue, and death from suffocation would result. Irritation of the nerves supplying the lungs sometimes occurs, and causes the patient to cough immoderately, when it is

not necessary for the purpose of expectoration. This condition is readily controlled by Dr. Pierce's Golden Medical Discovery, which exerts a decidedly quieting and tonic influence upon the pneumogastric nerve, which, with its ramifications, is the one involved. An infusion of the common red clover, in tablespoonful doses, will also be found a valuable adjunct in overcoming this condition.

Hæmoptysis. Hemorrhage from the lungs is generally sudden and unexpected in its attack, though sometimes preceded by difficulty of breathing, and a salty taste in the mouth. Although it *very rarely* destroys life, it often occasions alarm. Common table salt, given in one-fourth to one-half teaspoonful doses, repeated every ten or fifteen minutes, is generally sufficient to control it. Ligatures applied to the thighs and arms, sufficiently tight to arrest the circulation of blood in the veins, but not tight enough to impede it in the arteries, is a useful proceeding. Ergot, in teaspoonful doses of the fluid extract, hamamelis, and gallic acid, all are valuable for this purpose.

Night-sweats can only be regarded as a symptom of weakness, and are to be remedied by an improvement of the general health. Bathing in salt water is sometimes attended with good results. The practice of giving acids for this symptom can only be regarded as irrational. It may arrest the sweating, but it will do harm in other ways. Belladonna, given at bedtime, is an effectual remedy.

Frequency of the pulse is generally a prominent symptom in this disease. It sometimes points to a condition of sufficient importance to require a remedy. It is often affected by the absorption of poisons from the diseased tissues. Dr. Pierce's Golden Medical Discovery by assisting in elimination will, if persisted in, tend to relieve this as well as other symptoms and thus help in the general improvement.

Diarrhea is sometimes a troublesome symptom, and particularly so in the latter stages of the disease. It is generally due to acidity of the alimentary canal, to which the treatment must be directed. Great care should be taken in the selection of the diet to improve the quality and avoid everything which disagrees with the patient. Improve digestion by every possible means. Carbonate of soda and rhubarb, in the form of a syrup, are sometimes excellent. Doctor Pierce's Extract of Smart-weed, in small doses, will generally diminish the frequency of the discharges.

Derangement of the Liver is often a complication requiring attention, and the timely relief of which goes very far in ameliorating the general condition of the patient. The "Golden Medical Discovery" is generally sufficient to relieve this complication. Its influence, however, may be considerably increased in this direction by the use of Dr. Pierce's Pleasant Pellets, according to the directions which accom-

pany them. They should only be taken in the smallest doses, one or two "Pellets" every day, just enough to produce a natural movement of the bowels each day.

Uterine Derangements. In the female, derangement of the menstrual function is generally an early complication of consumption, if indeed it does not occur at the outset. It deserves early attention, and, in addition to the remedies already advised, Doctor Pierce's Favorite Prescription is so compounded as to meet the requirements of the condition, and at the same time exert a favorable influence upon the constitutional disease.

Although we do not advertise "Golden Medical Discovery" to cure consumption — nor would we advise any one with a well-marked case of this disease to depend alone upon this medicine — yet, nevertheless, many sufferers have been benefited by the "Discovery."

AVOID INFECTION. Individuals suffer from Chronic Bronchitis, Catarrh or Asthma, but owing to a generally good physical appearance, Tuberculosis is not suspected. Many times elderly members of a household, suffering from these disorders, upon examination, will be found afflicted with Chronic Pulmonary Tuberculosis. They are unfortunately likely to be in constant companionship with small children in the family and will be the source of a Tubercular Infection. Sometimes servants, about the home, with apparently only a slight cough or cold, are tubercular.

These cases should be carefully studied by the family physician and if Tuberculosis is found, should be given most careful instructions in regard to the prevention of infection of others. They should have separate dishes, wash separately and be extremely careful to burn their expectoration.

There are so many Institutions, usually supported by the State, and Clinics where people can receive proper treatment, that they should at once be required to place themselves under the care of skilled physicians.

We would sum up the essentials of treatment in plenty of wholesome fresh air, both day and night, rest, not too much exercise, ease of mind, a diet that is nourishing, plentiful, and supplies the necessary wants.

A long period of time is always required for the recovery from this disease and hence those ill should not be impatient. Let them live out in the open as much as possible, winter and summer. This is the ideal way to take the open-air treatment. Sunlight helps the heart, lessens the blood pressure and by direct influence of the violet ray, improves the state of the nervous system. The action of sunlight upon the functions of the kidneys is also manifested and the mind is made more buoyant and hopeful. Activity and working capacity increase; food is more easily digested and cared for by the system. The oxygen consumption is greater and there is an increase in the elimination of the poison from the system.

In using the Sun's rays for healing or curative purposes, only a very light exposure should be permitted at first, gradually submitting the

(Continued bottom of page 515)

CATARRH OF THE LUNGS OR CHRONIC BRONCHITIS.

This is a subacute or chronic form of inflammation of the mucous membrane of the bronchial tubes, of a very persistent character and variable intensity. There are few diseases which manifest a greater variety of modifications than this.

Symptoms. The symptoms of this disease vary greatly with its violence and progress. Cough is always present, and is very often the first symptom to attract the patient's attention. It is usually increased by every slight cold, and with each fresh accession becomes more and more severe, and is arrested with greater difficulty. The cough is always persistent, sometimes short and hacking, at other times deep, prolonged, and harsh. Sometimes it is spasmodic and irritating and particularly so when it is associated with affections of the larynx, or with asthma, involving irritation of the branches or the filaments of the pneumogastric nerve.

When the chronic follows the acute form of the disease, or follows inflammation of the lungs, the expectoration may be profuse from the first, and of a yellowish color and tenacious character. When the disease arises from other causes, the expectoration is generally slight at first, and the cough dry or hacking. This may continue some time before much expectoration occurs. The expectorated matter is at first whitish, opaque, and tenacious, mixed sometimes with a frothy mucus, requiring considerable coughing to loosen it and throw it off. As the disease progresses, it becomes thicker, more sticky, of a yellowish or greenish color, mixed with pus, and sometimes streaked with blood. In the latter stages, it becomes profuse and fetid, and severe hemorrhage may occur. Sometimes the cough and expectoration disappear when the weather becomes warm, to appear again with the return of winter, which has gained for it the appellation of *winter cough*. The sufferers feel as if something was bound tightly round them, rendering inhalation difficult. Soreness throughout the chest is often a persistent symptom, especially when the cough is dry and hard. Behind the breastbone there is experienced a sense of uneasiness, in some cases amounting to pain, more or less severe.

As the disease progresses, the loss of strength is more and more marked, the patient can no longer follow his usual employment, his spirits are depressed, and he gradually sinks, or tubercular matter is deposited in the lungs, and consumption is developed.

Treatment. Thorough attention to hygiene, with the avoidance of the causes concerned in the production and perpetuation of the disease, is necessary. The patient must be protected from the vicissitudes of the weather by plenty of clothing; flannel should be worn next to the

skin, with a pad of flannel or buckskin over the chest, and the feet should be kept warm and dry. Living in a tent, or sleeping in a room with open windows, or only screened with wire netting, has proven of very great benefit in this disease as in consumption. For full information regarding out-door life see elsewhere in this book. Exercise in the open air is essential. When the weather is so cold as to excite coughing, something should be worn over the mouth, as a thin cloth, handkerchief, muffler, or anything which will modify the temperature of the atmosphere before it comes into contact with the mucous lining of the lungs. Good ventilation of sleeping-rooms is all-important; not that the air should be cold, but that it should be as pure as possible.

The diet must be nutritious, carbonaceous, and of sufficient quantity. Beef, milk, rich cream, plenty of good butter, eggs, fish, wheat bread from unbolted flour, supply the appropriate alimentary substances for perfect nutrition and the maintenance of animal heat.

To overcome the modified form of inflammation in the bronchial tubes, all sources of irritation should be avoided, as the inhalation of dust or excessively cold air. It is in the treatment of severe and obstinate cases of this disease that Dr. Pierce's Golden Medical Discovery has achieved unparalleled success, and won the highest praise from those who have used it. Its value will generally be enhanced in treating this complaint by adding a quarter of an ounce of the Iodide of Potash to each bottleful. The "Golden Medical Discovery" should be taken in teaspoonful doses, repeated every two hours. When the cough is dry and hard, with no expectoration, take a two grain tablet of Ammonium Chloride every two or three hours. It may, however, be aided by inhaling the hot vapor of vinegar and water, or vapor from a decoction of hops, to which vinegar has been added.

The use of Dr. Pierce's Golden Medical Discovery should be *persisted* in, taking it in frequent doses, every two or three hours, and keeping up its use until the disease yields and is perfectly stamped out. Do not expect a formidable disease of perhaps weeks' or months' duration to be *speedily* cured. Chronic diseases are generally slow in their inception and development and can only be cured by gradual stages. Perseverance in treatment is required. Many invalids do not possess the strength of purpose—the will power—to continue the use of the "Golden Medical Discovery" long enough to receive its full benefits. It is worse than useless for such to commence its use, for without persistency it cannot be expected to overcome such an obstinate malady as chronic bronchitis.

ASTHMA.

PHTHISIC.

One of the most distressing ailments with which the human family is afflicted is asthma. Its symptoms are not to be mistaken. Suddenly and without apparent provocation the patient experiences the greatest difficulty in breathing. When warning is given, there is usually a sense of fullness in the stomach, flatulence, languor, and general nervous irritability. The countenance is a picture of anxiety and horror. The difficulty of breathing increases and the struggle for air commences. Windows and doors are thrown open, fans used, and, utterly regardless of consequences, the sufferer passes the whole night in exposure and torture, even though the temperature be below zero. Fearing suffocation, the patient dare not lie down; he rushes to the window for air, rests his head upon a table or chair, or upon his hands, with the elbows upon the knees, jumps up suddenly and gasps and struggles for air. The eyes are prominent and the veins of the forehead distended with blood; sometimes the bowels are relaxed. The urine is colorless and is passed in copious quantities. This symptom indicates great excitement of the nervous system. The voice is hoarse, articulation difficult, breathing limited, noisy and wheezy. The *wheezing* is pathognomonic of the disease. It can only be confounded with croup, and then only in the young. In croup there is pain and difficulty in swallowing, fever and cough, which are usually absent in asthma. A severe paroxysm of asthma is very distressing to witness, and one unused to it might well suppose the sufferer to be in his last agonies. No definite limit can be assigned to the duration of the attack or of the disease. It may last but a few minutes, may endure for hours, or with slight remission continue for days. The condition of the patient may be for years as changeable as the pointings of the weather-vane. In fact, the atmosphere has much to do with the disease. With every approaching storm, with every cloud of dust, even the dust from sweeping a room, with every foul odor, and, in some more sensitive organizations, with even the perfume of flowers, a paroxysm is provoked. Truly he is a "child of circumstances," a veritable football upon the toes of every atmospheric disturbance.

UNPARALLELED SUCCESS.

Persons affected with asthma or phthisic are numerous. With such an amount of suffering in our midst is it not a marvel, if not a disgrace, that the medical profession of to-day endorse the opinions of a half century ago and pronounce it incurable, rather than make stupendous and laudable efforts to discover plans of medication that will

result in certain and permanent cure? The large experience furnished us has led to the discovery of remedies for this distressing malady of more than ordinary efficacy. Through the agency of these means we have been enabled to cure hundreds, who had suffered untold tortures for twelve, fifteen, or twenty-five years. Some whom we have been successful in treating had suffered from childhood to middle and even old age. The treatment of asthma still continues to be a prominent specialty at the Invalids' Hotel and Surgical-Institute.

NATURE OF THE DISEASE.

As to the exact pathological condition in this malady, opinions differ. Some physicians consider it a disease of the nervous system, others, of the blood, others, of the bronchial tubes, while not a few believe it to be dependent upon some disease of the stomach, heart, liver, kidneys, or due to urinary affections, or "female weakness." Respecting all these diseases of special organs, it is evident that any complication, and particularly one that is debilitating or causes irritation of the nervous system will increase its severity. This important fact we keep constantly in view in our treatment, and prescribe remedies to remove all complications.

In heart disease there is often dyspnœa, or difficult breathing, but this is not of the nature of asthma, or phthisic. The condition of the lungs is readily understood. There being an obstruction to the free passage of the blood through the heart, any excessive muscular exertion, or anything, in fact, which increases the action of the heart, is very apt to produce congestion of the lungs, and then the blood becomes surcharged with carbonic acid, which causes increased efforts to take more air into the lungs.

A Nervous Disease. A sudden fright, unfavorable news, grief, loss of property, etc., circumstances which affect the mind and nervous system, almost invariably throw the phthisical into a paroxysm. Nervines are demanded, particularly if the case be a chronic one, and we see that they are carefully and properly prepared and supplied, and in such a form as to be exactly fitted to the temperament and constitution.

POPULAR REMEDIES USED FOR SELF-TREATMENT OF ASTHMA.

There are numerous remedies that may be used to *relieve paroxysms* of asthma. Among them we will notice a few that are most frequently employed by the profession. They can be easily and inexpensively prepared by any patient or druggist:

1. Equal parts of the tinctures of lobelia, capsicum and skunk-

cabbage root. *Dose*.—Take a half teaspoonful in a little water every ten or fifteen minutes until relieved.

NOTE.—This is an anti-spasmodic and relaxant. In considerable quantities it will produce sickness at the stomach and perhaps vomiting. It should not be used when there is disease of the heart.

2. Chloroform. *Dose*.—A small quantity (say thirty drops), may be poured upon a handkerchief or napkin, held about one inch from the nostrils and the vapor inhaled. It is quite unnecessary to use this until insensibility follows; in fact, such an effect would be hazardous to life in the hands of the inexperienced.

3. Sulphuric ether. *Dose*.—The same as No. 2, and with the same precaution. Either of them should be used promptly upon the beginning of the paroxysm.

4. Take four ounces of stramonium leaves and strip from the stems, rubbing between the hands to partly pulverize. To this add one ounce of saltpetre, finely powdered. *Dose*.—Place a half teaspoonful upon a very hot shovel. Inhale the rising smoke. If the first few inspirations cause coughing, the smoke should not be evaded as the coughing incites deeper inspiration.

5. Stramonium and saltpetre as in No. 4. Dampen with water and make into balls or cones. These are more easily handled and are fired in the same way as the powder and used in the same way.

6. Take of sunflower leaves, stramonium leaves, mullein leaves, one ounce each; of lobelia leaves, half an ounce; of powdered nitre, one ounce; and benzoic acid, two drams. Mix thoroughly. *Dose*.—A pipeful, to be smoked the same as tobacco.

7. A cup of hot coffee or several of hot water. This is especially effective in cases arising from checked perspiration, from rheumatism, etc.

These recipes are given to the public as being the principal agents employed by the medical profession throughout the world. It must be distinctly understood that they are not *curative* but merely *palliative*, and used to relieve paroxysms. We object to them wholly and unqualifiedly because they contain NARCOTICS. It is a fundamental principle in our treatment not to use this class of remedies. They stupefy the brain, debilitate the nervous system, and have, in not a few instances, formed an unfortunate appetite and habit, most difficult to overcome. We are of the opinion that one of the chief reasons why this malady has been considered incurable is the fact that physicians have almost universally relied upon narcotic drugs. With such medication a cure is the exception. A cure can only be effected under such circumstances when the *powers of nature are sufficient to overcome both the NARCOTIC and the DISEASE*. That they will *relieve* we do not deny, but *they will never cure*. It reminds us of an old country doctor who advised a lady to smoke tobacco to cure acid dyspepsia. She followed the prescription for over thirty years and at last accounts was not cured

yet. In all seriousness we ask would any other remedy except a narcotic or stimulant be used with such persistency for anything like this length of time? Is it not apparent that such agents form a habit which is often worse than the disease, and yet fail to effect a cure? We appreciate the necessity for relief, and do not blame sufferers for availing themselves of any means for this purpose. But they should not be satisfied with relief only, but should look about for such a system of medication as will rid them of the disease completely and permanently. If a week's or a month's exemption is a "foretaste of heaven," how incomparable are the comforts and happiness to be derived from a life-time immunity?

MILLIONS OF DOLLARS

are annually spent upon the advice of physicians, in traveling expenses, and hotel bills, by sufferers from asthma, or phthisic, in seeking a change of climate that will be advantageous. It is the last expedient of the doctor who is annoyed by the continued complaint of his unrelieved patient, and can only be made available by the wealthy. In some instances the change is beneficial, but to be effectually so a permanent change of residence is required. Most patients are unable or unwilling to do this. In some cases change only affords temporary relief, the attacks returning after a few months. Even the wealthy dislike to take such chances. The less opulent cannot think of such methods, and hence are compelled to bear their sufferings as best they can. In the majority of instances the "change of climate" is only an illusion, or only temporarily beneficial at best. We can tell them a better way, and if they are wise they will follow it.

HAY ASTHMA, OR HAY FEVER.

This affection, known also as Hay Catarrh, Hay Fever, or Rose Cold differs but little in its manifestations, from coryza, or cold in the head, save in its *inciting cause*, and in its element of periodicity. In this latitude there are persons who, during summer or early fall, are invariably attacked with acute congestion or inflammation of the upper air-passages, giving rise to sneezing, watery discharges from the nose and eyes, difficult respiration, fever, and general prostration. These symptoms are supposed to be induced by the inhalation of pollen or odors from grasses or flowers, which at that time are supposed to give off certain exhalations of an irritating character. Unless arrested by medical treatment, the disease lasts until cool weather, or the occurrence of a hard frost rids the atmosphere of the exciting influence.

Some feather beds give off an odor which excites all the aggravated symptoms of this disease. Thus it appears that certain emanations

have the power of inciting these inflammatory conditions in certain sensitive constitutions. In all individuals suffering from this disease there is an over sensitiveness of the nervous system which admits of the appearance of such sudden and severe manifestations. Many cases suffering only mild symptoms for the first few seasons, annually become aggravated until severe spasmodic asthma is a regular, and sometimes continuous complication.

Treatment. In mild cases, or when the attack first appears, the daily use of Dr. Sage's Catarrh Remedy fluid will neutralize and wash away the poisonous particles which have found lodgment in the nasal passages. The Remedy is best applied with Dr. Pierce's Nasal Douche. When the disease has existed the previous season it is necessary that the patient begin both constitutional and local treatment four or six weeks prior to an expected return of the disease. The nervous system should be strengthened, and the resistance of the patient to the irritating influence of these pollens and odors so increased, that even though he may be exposed, no severe symptoms will follow.

Dr. Pierce's Golden Medical Discovery will be found invaluable as an alterative, blood purifier, and nerve tonic, and should be taken regularly while Dr. Sage's Catarrh Remedy is being used locally for its antiseptic and curative properties. The action of the "Discovery" is especially desired in cases that are so far advanced as to be attended with asthmatic symptoms, such as difficult breathing, headache, and a feeling of lassitude and prostration.

In very obstinate or distressing cases our specialists have been able to prescribe and send, by mail or express, special courses of treatment which have proven so effective as to cure the disease *permanently*, so that it has not reappeared the following season. The treatment seems to have produced such an impression upon the system as to have fortified the individual against a return of the disease.

In rare cases morbid growths in the upper air-passages are of such a nature as in themselves to be a source of sufficient excitement to unbalance the nervous equilibrium so that the individual is thus rendered more susceptible to this disease. In such, or exceedingly obstinate cases a personal examination by our specialist is desirable, and often results in the use of such measures as give permanent relief.

(Continued from page 508)

whole body as far as the head, to the action of the rays. The Sun's rays should be direct—not filtered through glass. Usually it is best to begin with the extremities, gradually extending, little by little, the exposure to the abdomen and ultimately to the chest for one to three minutes' time. If no unfavorable results appear, it may be increased daily by three minutes.

Best results are obtained by exposure in a temperature between eighty-six and one hundred and four. Variations above and below these points, can be well tolerated by vigorous people, but must be limited. This treatment must extend over a long period.

Much rest is indicated for the average case, the patient sleeping or resting outdoors day and night. Exercise alternated with rest in the open air is ideal.

CROUP, MEMBRANOUS AND SPASMODIC.

Every family should be made acquainted with the symptoms and treatment of this disease. Especially is this true in the case of those living remote from a physician. From the lack of this knowledge

Fig. 1.



False Membrane in Croup. From a specimen in Doctor Gross' cabinet.

on the part of parents, many a little one has perished before medical assistance could be obtained. In some of its forms its progress is very rapid, and, unless relief is obtained in a few moments, or hours at the most, death ensues.

There are several quite distinct pathological conditions of the vocal and respiratory organs which have, in popular parlance, been designated as croup. But two of these are worthy of consideration here: The *true* or *membranous* croup, in which a false, semi-organized membrane is formed, and *spasmodic croup*. Both may result fatally, but the former is much the more dangerous.

Diphtheria. Immunity is common to many and increases as age advances. Doctor Schick found a test which is made by using a minute and safe hypodermic injection of a specially prepared diphtheric poison. No reaction occurs if the child is immune. If liable to get diphtheria, a small, inflamed or red spot, about a

quarter of an inch in diameter appears at the site of the injection, in from twenty-four to forty-eight hours, in which case a mild dose of a mixture of toxin and antitoxin is repeatedly given by skilled physicians. This results in a steadily increasing immunity to all danger of contracting the dread disease, and is without risk or danger.

The earlier in life this plan is used the safer for the individual. It is absolutely protective for a period of about two years, sometimes longer. It should be given all persons exposed to, or in attendance upon, a case of diphtheria.

Symptoms. True croup is generally preceded by what is known as "a cold." The child coughs, sneezes, and is hoarse. It is the hoarseness and the peculiar *character* of the cough which indicate the tendency to croup. This has been already described. In addition, the child is restless, fretful and feverish. The disease makes rapid strides.

Finally the cough ceases to be loud and barking, and is very much suppressed; the voice is almost gone; the face is very pale; the head thrown back; the nostrils dilated and in perpetual motion and the pulse becomes very feeble. Great exhaustion, more or less delirium, and, finally, death comes to the relief of the little sufferer. Convulsions sometimes occur in the last stages, and soon terminate fatally.

Treatment. No time should be lost in commencing treatment. Hot fomentations should be applied to the throat and upper portions of the chest. The free inhalation of steam should be employed early. The following treatment has been found very effectual in membranous croup, and is recommended by the highest authorities: Yellow sub-sulphate of mercury, or turpeth mineral, three to five grains, depending upon the age of the child, for one dose. If it does not cause vomiting in fifteen minutes, give a second dose. This, however, is seldom necessary. If the turpeth mineral cannot be obtained, sulphate of copper or sulphate of zinc may be given instead, as directed under the head of Emetics, in Part III, Chapter II. If there be a quick pulse, hot skin, a hurried breathing, and an occasional ringing cough, the child should be kept in bed, comfortably covered, but not overloaded with clothes, and the tincture or fluid extract of veratrum viride administered as follows: Take fluid extract of veratrum, five drops; sweet spirits of nitre, one teaspoonful; pure water, twenty teaspoonfuls; mix, sweeten with white sugar, and give a teaspoonful of the mixture every half-hour to two hours, according to the age of the child and the severity of the case. If there be great prostration, with cold extremities, the carbonate of ammonia should be administered, in doses of from one to two grains, every second hour, in gum arabic mucilage. Quinine is a valuable remedy, and is tolerated in large doses. The patient's body should be frequently sponged with warm water in which a sufficient quantity of saleratus or ordinary baking-soda has been dissolved to render it quite strongly alkaline. If the bowels be constipated they should be moved by an injection of starch-water. Beef tea and other concentrated, supporting diet should be administered. In those cases in which there is a tendency to croup, the "Golden Medical Discovery," together with iron and the bitter tonics, should be given to build up the system and counteract such tendency. The treatment which we have advised has been put to the severest tests in the most severe forms of the disease and has resulted most successfully. If, however, in any case it does not give prompt relief, our advice is to lose no time in summoning a physician who is known to be skilled in the treatment of diseases of children.

Spasmodic Croup. In this affection no false membrane is formed. It seems to have a nervous origin. Most frequently the child is awakened in the night by a sense of suffocation. He may cry out that he is choking. The countenance is livid, the breathing is hurried

and each respiration is attended by a crowing sound. The child has fits of coughing or crying, and makes vehement struggles to recover his breath. This complaint, unlike croup, is unattended by fever, it being of a purely spasmodic character with no inflammation.

Apply hot fomentations to the throat, and give frequent small doses of tincture or fluid extract or syrup of lobelia, to produce slight nausea; or, better still, an acetic syrup of blood-root, made by adding one teaspoonful of the crushed or powdered root to one gill of vinegar and four teaspoonfuls of white sugar. Heat this mixture to the boiling point, strain, and administer from one-fourth to one teaspoonful every half-hour or hour. Slight nausea should be kept up, but it is unnecessary to produce vomiting. This is usually all the treatment that is required.

WHOOPIING-COUGH. (PERTUSSIS.)

This is primarily a disease of the nervous system, involving the respiratory organs through the medium of the pneumogastric nerve. It is considered a disease of childhood, though we have met with it in *old age*. It is eminently a contagious affection, and occurs generally but once during life.

Symptoms. It is at first manifested by a catarrhal cough, gradually developed. After a while it becomes paroxysmal, generally worse at night. The cough is severe, and long-continued; when a prolonged inspiration occurs, it is accompanied by a peculiar shrill sound, the characteristic *whoop*, which, when once heard, is never forgotten. The cough is attended by a copious secretion of glairy mucus, which is brought up at the latter part of the paroxysm. During, or at the end of the paroxysm, vomiting frequently occurs, and sometimes nose-bleed. The cough is so severe at times that the patient turns purple, gasps for breath, and presents all the symptoms of suffocation. Bronchitis sometimes is a troublesome complication. Immediately preceding a paroxysm of coughing a sense of impending danger appears to seize the child, and it runs to its mother, or grasps some support, as if for protection. Until the paroxysmal character and peculiar *whoop* is developed, the disease is diagnosed with difficulty.

Treatment. Anything that will lessen or relieve the severe spells will be appreciated by patient and parent alike. We highly recommend a preparation known as "Pertussin," which can be procured in drug stores. We do not make or sell this remedy, but knowing the beneficial results it brings, we mention it.

One of the latest means of relieving the frequency and severity of the paroxysms is the X-Ray, applied as a treatment to the chest. Of course this is given only by a physician with special skill in the use of X-Ray.

As a tonic and reconstructive for the weakness and debility usually caused by this disease, we recommend Dr. Pierce's Golden Medical Discovery.

Exposure to cold and wet should be avoided.

NOSEBLEED.

Hemorrhage from the nose is commonly the result either of a catarrhal or an inflammatory condition of the nasal mucous membrane. Individuals are susceptible to it who are oppressed by fever or constitutional diseases that reduce the strength. There is also a condition of the nervous system in which there is congestion of the nerve centers which favors manifestations of this somewhat troublesome difficulty.

Causes. In some instances an examination of the nose will reveal the presence of a small point of congested vessels, usually about the size of a split pea. Upon this portion of the mucous membrane small scabs form, and at any time when they may be dislodged, by accident or otherwise, a hemorrhage will ensue.

The constitutional conditions that produce the tendency to hemorrhage are most important. In individuals of a debilitated condition, it results from the lack of a proper amount of fibrin in the blood. Where the blood becomes thin, or loses a large share of its red corpuscles, the individual is pale, and hemorrhages are frequent from the mucous surfaces of any portion of the body, the nasal mucous surface being especially liable to such attacks.

Treatment. This is local and constitutional. Where there is constitutional imperfection, it should be remedied. Usually in young women there is some difficulty with the ovarian or uterine circulation, and the attack of hemorrhage from the nose is reflex in its character, appearing just before or at the time of the menstrual flow, accompanied with troublesome headache. The correction of this form is by the use of the "Favorite Prescription" and "Golden Medical Discovery," using of each a teaspoonful three times a day, taking the "Prescription" before meals and the "Discovery" after meals. If the bowels are constipated, the "Pellets" should be employed, in order to overcome any congestion of the liver which favors the manifestation of nosebleed. In children there is usually a debilitated state of the system, which is best remedied by the use of a half teaspoonful dose of the "Discovery," taken three times a day, after meals, with sweetened water. This treatment should be continued for a month or six weeks. By this means the blood-making organs rapidly improve in their activity and functions, the blood becomes rich in corpuscles and fibrin, thus strengthening the walls of the blood-vessels and tending to prevent a hemorrhage following undue excitement or injury. With men the use of laxatives is of great importance. One or more of the "Pellets," taken on retiring at night, are most beneficial. Where the blood is not up to the standard of purity, even though the individual be fleshy, the "Discovery" should be used, a teaspoonful or two, three times a day, after meals, in conjunction with plenty of

outdoor exercise and the best of food. Where the hemorrhages occur in those having too much blood, the diet must be corrected by the use of vegetables and fruit, diminishing the amount of meat and pastries to a minimum. The amount of fibrin should also be increased by the use of the "Golden Medical Discovery."

Local Treatment. Of those applied directly to the membrane, Dr. Sage's Catarrh Remedy, used according to the directions which wrap the bottle, is excellent in bringing about a normal condition of the mucous surfaces. Following this, a small amount of Subnitrate of Bismuth may be snuffed into each nostril. Usually the amount required to cover a three-cent silver piece is sufficient. The powder dries the surface and favors the speedy formation of a coagulum, or clotted covering, which effectually checks any further hemorrhage. The application of a firm compress to the upper lip will also diminish the flow of blood through the arteries that run to the anterior portion of the mucous surface. Good effects often follow the use of a small piece of ice applied to the nape of the neck. This, with a reclining posture, will cause contraction of the blood-vessels. If the Subnitrate of Bismuth is not to be readily obtained, the use of any other powder such as starch, finely divided and baked so as to be free from a tendency to form starch paste when applied to a mucous surface, is equally good. Well-browned flour is also servicable. The use of the contents of a puff-ball, which contains many millions of fine spores, has been employed from time immemorial. The use of such drying powders tends to favor the speedy formation of clots. Where the small points of engorged vessels are to be readily reached, use a solution of the Tincture of Chloride of Iron, one part in four of water, applying with a small pledget of soft cotton wrapped about, or fastened to the end of a pencil or stick. In this way the solution may be applied in very small amount to the spot where the hemorrhage appears, and will give immunity from future attacks. Any of the styptics (see pages 313 to 315) can be called into service. Those who have the advantage of the city drug store may use a solution of basic ferric sulphate (Monsel's solution), or the spray of a three or four per cent. solution of cocaine. The latter is one of the most pleasant and effective remedies in these emergencies. Before its administration the nasal cavity should be cleansed by snuffing up the nostrils salt and warm water. When washed, immediately apply the spray. If the constitutional condition which led to the hemorrhage continues, the general remedies—of which the "Golden Medical Discovery" is the most efficacious—should be administered. This agent increases the number of red blood corpuscles, and enriches the blood in fibrin, so that the relief obtained is permanent.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they now are, coming as they do, from well-known, intelligent, and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

Out of thousands of similar letters received from former patrons, we have selected these few at random, and have to regret that we can find room only for this comparatively small number in this book.

STUBBORN COUGH

Cured by "Golden Medical Discovery" after many other remedies had failed.



MR. E. H. GOODWIN.

DR. V. M. PIERCE,

665 Main St., Buffalo, N. Y.

Dear Sir:—My husband was cured of a prolonged and stubborn cough by taking Dr. Pierce's Golden Medical Discovery, after many other remedies had failed to give him any relief.

My son was troubled with something like fits and the home doctors failed to cure him. Finally we wrote to Dr. Pierce's Invalids' Hotel in Buffalo, N. Y., and the specialists there treated him by mail and cured him.

I think the doctors at your Invalids' Hotel and Surgical Institute are the best in the world.

Very truly yours,

MRS. L. E. GOODWIN.

CHRONIC CATARRH.

Dr. Sage's Catarrh Remedy gave the Best Satisfaction.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I suffered from chronic catarrh of the head for seventeen years. Had used a great variety of remedies, a great many of them were of no use, others gave only temporary relief. Finally I began the use of Dr. Sage's Catarrh Remedy, and it has given me better satisfaction than anything I ever tried. Have used about twenty-six packages of the remedy and am still using it, and I can say that I believe I am almost cured.

Can safely recommend it to any one who is suffering with chronic catarrh of the head, nose or throat.

Yours truly,

P. L. SAULTER.

COUGH**"A Friend Advised Me to Take Dr. Pierce's Medicines"**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—When I was a young woman working in a laundry, the steam I inhaled affected my bronchial tubes so that I had a continuous cough, worse at night than during the day. A friend advised me to take Dr. Pierce's Golden Medical Discovery and Dr. Pierce's Cough Syrup, and these two remedies gave me immediate relief, and eventually cured me of all bronchial weakness. I am glad to recommend such worthy remedies as Dr. Pierce's.

Very truly yours,

MRS. MINERVA PYLE.

BRONCHIAL TROUBLE—CHRONIC COUGH**"I Owe a Great Deal to Dr. Pierce's Golden Medical Discovery"**

DR. V. M. PIERCE, PRESIDENT INVALIDS HOTEL, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Doctor Pierce's Golden Medical Discovery has no equal for bronchial trouble. For about three years I suffered with bronchial trouble and weak lungs.



MRS. MCAFEE.

I developed a cough which became chronic and I had severe pains thru my chest and under my shoulder blades. My health became so poor that I was not able to do my housework. I doctored and took medicine but did not get any relief. Finally, a friend advised me to try Dr. Pierce's Golden Medical Discovery, and by the persistent use of this medicine my health was completely restored, which I am still enjoying, and I have never had any return of my ailment, nor have I had any bronchial or lung trouble since. I owe a great deal to Dr. Pierce's Golden Medical Discovery and always recommend it.

Very sincerely yours,

MRS. LOTTIE MCAFEE.

COUGH, FOLLOWING INFLUENZA**Self and Two Children Found Relief in "Golden Medical Discovery"**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Doctor Pierce's Golden Medical Discovery is the best tonic and builder of a run-down system. The influenza left us all, myself and two children, in a very weakened run-down condition from which we could not seem to recover, and each had an aggravating cough that seemed to be in the bronchial tubes. We were all very miserable when I got Dr. Pierce's Golden Medical Discovery, and it not only built us all up in health and strength but cured us of the annoying coughs.

Yours very truly,

MRS. MARY FANER.

BRONCHIAL COUGH.

DR. V. M. PIERCE, Buffalo, N. Y.

Dear Sir—In my younger years I was subject to a bronchial cough. I coughed day and night and had begun to think I was going into tuberculosis when Dr. Pierce's Golden Medical Discovery was recommended to me. I took about three bottles at that time and was absolutely cured of my cough and restored to perfect health. Since then I have always remembered Dr. Pierce's Golden Medical Discovery whenever I get the slightest cold and I have not been bothered with any such coughing spells as I had when I first commenced to take the "Discovery." I highly recommend Dr. Pierce's Golden Medical Discovery to every man or woman afflicted with bronchial distress of any kind. It is sure to give relief.

Very truly yours,

MRS. ANNIE FRANTZ.

LARYNGITIS.

WORLD'S DISPENSARY MEDICAL ASSN.,
663 Main St., Buffalo, N. Y.

Gentlemen—I wish to state that I have used Dr. Pierce's Golden Medical Discovery with the best results. I had trouble with my throat which developed into laryngitis. I was ill for quite a spell and Dr. Pierce's remedies were recommended to me by a friend, so I purchased a bottle of the liquid Discovery. Before I had used three bottles my illness had vanished and today I am well. I give great praise to Dr. Pierce's remedies.

Very sincerely yours,

MRS. E. WILLIAMS.



MRS. WILLIAMS.

NASAL CATARRH AND RUN-DOWN.

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL,
Buffalo, N. Y.

Dear Sir—Dr. Pierce's medicines have put new life in me and it gives me great pleasure to recommend them to my friends. Six years ago I was in bad health. I tried several doctors and they said I had catarrh of the head and was all run-down. I had no appetite, couldn't sleep, was nervous and my memory was so poor that the past seemed as if I had dreamed it. My heart palpitated until at times I thought surely I would die. I got so thin and weak I could hardly do anything. I took the Golden Medical Discovery and a few vials of the Pleasant Pellets and now I work all the time. Am in better health than I have been in sixteen years. I cannot praise the "Discovery" enough for I think it saved my life.

Respectfully yours,

MRS. MARY JACKSON.

PHARYNGITIS AND CATARRH.**Treated in the Invalids' Hotel and Surgical Institute.****WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:**

Gentlemen—I was at your Institution a few years ago for both surgical and medical treatment and now feel it my duty to let you know how I am getting along. Am glad to say that I am well and have been working steady ever since.

**MR. ERIKSEN.**

I never get tired recommending your Sanitarium and your remedies to sick people whenever I get a chance because I know from my own experience that if they go there they will be under the care of skillful doctors and nurses and will receive fine treatment from everybody connected with the Institution.

While I was there I got acquainted with people from every state of the Union and even with some from abroad who were either taking surgical or medical treatment. Some were being treated for very obstinate cases upon which they had wasted much money and time in different hospitals, but at 663 Main Street, Buffalo, N. Y., they all improved very fast. Some left there cured before I did and others were well on the way to health when I left. Therefore I take pleasure in recommending your Sanitarium and if you ever want to use this simple testimonial together with my photograph for publication, you are welcome to do so.

Yours respectfully,

N. P. ERIKSEN.**COUGH, LOSING FLESH, NERVOUS.****In Run-down Condition For Two Years—Feels Like a New Person.****WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:**

Gentlemen—I take the greatest pleasure in telling how much Doctor Pierce's Golden Medical Discovery Tablets have done for me. I was weak and in a run-down condition for two years and was so nervous I hated to think of lying down at night. I had a cough and was losing flesh—going down until I just weighed 107, when usually I weighed 125. Now I rest good, have a good appetite, can eat anything and feel like a new person. I took a small size package of the "Discovery Tablets" and they did me so much good that I got a full size package. I advise friends to try Dr. Pierce's medicines because I feel sure they will cure them.

Very sincerely yours,

MRS. F. J. DAVIS.**LA GRIPPE AND NEURALGIA.****Worn Out In Body.****DOCTOR PIERCE, Buffalo, N. Y.:**

Dear Sir—It is with pleasure that I add my testimony to your list. Your "Golden Medical Discovery," which I praise very highly, saved my life. I could not rest day or night—coughed and trembled inside. I took two bottles of Dr. Pierce's Golden Medical Discovery and now I am well. If it had not been for your medicine I verily believe I would not be alive. I thank you for this blessing and recommend your medicine to all sufferers.

Yours truly,

MRS. MARY A. SMITH.**MRS. SMITH.**

BAD COLD ON LUNGS AND HOARSENESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen—I feel like a new person since taking Dr. Pierce's Golden Medical Discovery. I have a good appetite and feel well and strong.

For several years my health had been very poor. Last winter (1919) I took a severe cold and even late in the spring my lungs were filled up. Sometimes I could not talk. After the first three doses of the 'Discovery' I was relieved. I have kept this medicine on hand since and when I feel a cold coming I take a few doses. I never have any trouble with hoarseness and the cold leaves me quickly if I take the "Discovery."

I am a public school teacher and have recommended this medicine to all my pupils and friends.

Yours truly,

MISS N. O. PAGE.

LA GRIPPE, NASAL CATARRH, NERVOUS INDIGESTION, AND HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen—In the early spring of 1900 I suffered from a severe attack of La Grippe, nasal catarrh of the most severe type, nervous indigestion the doctor said, back-ache, constant headache, palpitation of the heart—really an almost total breakdown being the result. As a drowning man grabs at a straw I began trying this remedy and that. As a last resort, though greatly discouraged, I made up my mind to try Dr. Pierce's medicines and procured the Golden Medical Discovery and Dr. Sage's Catarrh Remedy, which I used regularly with an occasional dose of Dr. Pierce's Pleasant Pellets to keep the bowels regular. The effects were at first slow, but with continued use of these medicines the disagreeable symptoms disappeared and the relief was permanent. I most heartily recommend Dr. Pierce's medicines to all suffering humanity.

Yours very truly,

REV. GEORGE R. WOMACK, Route 1.



REV. G. A. WOMACK

COUGH.

"Cured by an Herbal Medicine which has been on the Market Over Fifty Years."

DR. V. M. PIERCE, PRESIDENT, INVALIDS' HOTEL, Buffalo, N. Y.

Dear Sir—Over fifty years ago I had an awful bad cough. I had it for five years. I was advised by an aunt of mine to try Dr. Pierce's Golden Medical Discovery and one bottle and a half cured me entirely. I have used this remedy ever since and have recommended it to many, and it has been a success in every case.

I am an old Civil War veteran, 73 years of age, and can truthfully say I don't believe there is a better cough medicine this side of Paradise than the Golden Medical Discovery.

Respectfully yours,

WM. L. PIERCE.

NASAL CATARRH FOR TWO YEARS.**Cured, and Sense of Smell Restored.****WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:****T. W. STREETER, Esq.**

wishes to hear from me directly.

Dear Sirs—After having suffered from nasal catarrh for about two years and getting worse with every cold and with the approach of cold weather, I wrote to you for advice. As soon as I received answer I procured Dr. Pierce's Nasal Douche (or reservoir) and Dr. Sage's Catarrh Remedy. My nose had thickened up until it was very difficult for me to breathe through it and I could scarcely smell at all. When I had used the Catarrh Remedy four days I could breathe easier. Continued its use for about three months, using a package a week. The improvement was steady all the time, and now I can breathe and smell as well as almost any one. This wonderful remedy and the appliance cost me less than ten dollars—and it is my advice to all who have catarrh to write to the World's Dispensary Medical Association for advice and use the treatment they direct. I will be glad to write to any one who

Yours truly,

T. W. STREETER.

A BAD COLD ON LUNGS AND EXHAUSTION.**After Seven Years Is Still In Good Health.****DOCTOR PIERCE, Buffalo, N. Y.:**

Dear Sir—I will send you a testimonial, and hope it may be the means of helping some poor suffering invalid to try your medicines, and learn of their great merit.

Some time ago I was advised by a friend to try your medicines. I was then suffering from indigestion and heart trouble; had a bad cold on lungs, and was completely run-down with over-work and the care of eight in our family, who were all sick that winter with the dreadful disease—typhoid fever. After a while I began taking Dr. Pierce's Golden Medical Discovery and "Favorite Prescription," three doses of each, alternately, every day. I had not used one bottle of each before I began to improve—to feel much better in every way. I also took three vials of "Pleasant Pellets." When I had taken in all six bottles of Dr. Pierce's Golden Medical Discovery and six of "Favorite Prescription," I felt like a new person. One year ago I discontinued their use, and I feel that I cannot praise the medicines too highly. I do thank God and Dr. Pierce for these great medicines and their wonderful curative powers, and I thank Dr. Pierce for his very kind attention and advice, as well as his fatherly letters to me.

**MRS. MACK.**

MRS. E. B. MACK.

About a year later she writes:

I have a sister who had a severe attack of La Grippe, and it left her with a dreadful cough. When she coughed she would raise blood. I gave her Dr. Pierce's Golden Medical Discovery and it cured her of the cough—one bottle cured her.

I wish you abundant success, and hope God will continue His blessings toward you in your noble work. Again thanking you for all past favors, I am,

MRS. E. B. M.

It is now seven years since the first letter above was received and to-day she writes:

Dear Friends—I feel quite sure I would not be among the living to-day if I had not used your medicines at the time I did. I discontinued the use of "Golden Medical Discovery" and "Favorite Prescription" some years ago and have never felt the need of them since. Thanks to the Giver of all good and to Doctor Pierce.

I have always taken pleasure in recommending your medicines whenever I found an opportunity.

Greatfully yours,

MRS. M. B. M.

COLD, CHRONIC COUGH, NO APPETITE

Took Golden Medical Discovery and Was Restored to Health

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

665 Main Street, Buffalo, N. Y.

Dear Sir—I first heard of and used Doctor Pierce's Golden Medical Discovery several years ago. I was then in a bad state of health, had a chronic cough and a cold that nothing seemed to reach. My appetite was poor and my sleep broken, and I felt very miserable. I soon knew the medicine was doing me good, for my cough was better and my appetite improved. Several bottles of this splendid medicine brought me back to real health again. Golden Medical Discovery has also been of great help to my husband who was taken down with what he believed was the 'flu.' He was all run-down and felt mean, but the Medical Discovery so

stimulated and enriched the blood that he soon regained his health.

Yours, very truly,

MRS. M. MARTENS.



MRS. MARTENS

A LETTER FROM A NURSE.

V. M. PIERCE, M. D., Buffalo, N. Y.

Dear Sir—When I get a cold and have pains through my lungs, I resort to Dr. Pierce's Golden Medical Discovery, which I cannot praise enough.

As for the "Favorite Prescription" I never have a case of expectancy that I do not recommend it. They all say they would not do without it.

As for Dr. Pierce's latest medicine, the "Anuric," my kidneys and back were so bad that I had to turn down several cases. After taking a trial package, I got a large bottle of "Anuric Tablets," and the relief was wonderful. I am relieved of the backache and the excretion is healthy looking. I am feeling fine.

As for the "Pleasant Pellets" when I feel dizzy and drowsy and get the blues, I go for the "Pellets" and in 24 hours I am feeling fine. They are the best cure for liver trouble and indigestion.

I could go on with praise of Dr. Pierce's valuable remedies, but space will not permit.

Very truly yours,

MRS. LOUISA BAUMGARD.

BAD COLD — COULD NOT SPEAK ABOVE A WHISPER.

DR. V. M. PIERCE,
665 Main Street, Buffalo, N. Y.

Dear Sir:—Last winter I took a bad cold, lost my voice — could not speak above a whisper, and coughed almost constantly. Several remedies I tried gave me no relief. Finally a friend told me to get Dr. Pierce's Golden Medical Discovery. I took two bottles, but before I had taken all of one I was well and could talk as good as ever. Dr. Pierce's Golden Medical Discovery is the best medicine on earth for colds and weak lungs. Everybody who needs it should try it. It certainly helped me.

Very truly yours,

MRS. M. L. MARTIN.

GRIP OR PNEUMONIA.**"The Best Medicine I Ever Took."**

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—More than a week ago I was suffering with an awful cold in my head, throat, breast, and body. Some called it La Grippe, some pneumonia. I was advised by a friend to try a bottle of your "Golden Medical Discovery." I tried a bottle and it did me so much good that I feel safe in saying it is the greatest and best medicine that I ever took. It does all you claim for it and it is satisfactory.

Very truly yours,
JAMES G. KENT.



JAMES G. KENT, ESQ.

Two years afterwards writes:

Your "Golden Medical Discovery" merits a better testimonial than I sent. My health is much better than it was before using your medicine.

J. G. K.

CHRONIC BRONCHIAL TROUBLE.

**Doctored and tried other remedies. Began to improve
with first few doses of "Discovery."**

DR. V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—My husband always speaks a good word for Dr. Pierce's Golden Medical Discovery and we both feel that he owes his present good health to this splendid medicine. Bronchial pneumonia, as a child, left him with chronic bronchial trouble and it just kept getting worse every year, even though he doctored and tried every remedy recommended to him. Some nights he would cough so hard I used to be afraid he might die before morning. At last his mother advised him to try the "Golden Medical Discovery" and from the first few doses he improved. It is just a year now and he seems to be entirely cured of all bronchial ailments so I feel justified in recommending "Golden Medical Discovery" to anyone afflicted with bronchial troubles.

Yours very truly,

MRS. S. M. GREER.

TWO CASES OF GRIP.**An Old Veteran "Can Do a Good Day's Work on the Farm."****C. C. HALL, Esq.**

DOCTOR PIERCE, Buffalo, N. Y.:

My Dear Doctor—If I failed to write to you I should feel that I had failed to do my duty before God and man. Words utterly fail to express my heartfelt thanks. My son had a severe time with whooping-cough and had partly recovered when the grip took him. He coughed and spit blood, and the doctor failed to give him relief. As I had one child die with consumption you may imagine my feelings. I got your "Golden Medical Discovery" and before my son had taken two bottles he was a well man.

I shall be 71 years old in July. I served in the Army and Navy during the Civil War. I had the grip and felt that maybe my time had come. Was weak; had no desire for food. I am using your medicine, and to-day feel good, can eat anything, and can do a good day's work on the farm. And now may God bless you.

Yours truly,

C. C. HALL.

P. S. Our merchant sold all he had of your medicine and has ordered more. I tell nearly everybody that I see about your remedy, and have helped to sell it.

C. C. H.

WEAK LUNGS AND RUN-DOWN SYSTEM.**"Can Do All My Housework Without Any Ill Effects."**

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—Two years ago I could not walk fifty yards without stopping to rest, and coughed until I could hardly stand alone. I tried several remedies without beneficial results. While looking in one of your pamphlets I found Dr. Pierce's Golden Medical Discovery was good for a cough. I at once procured some, and before I had taken a bottleful I saw I was improving. Have taken eight bottles of "Golden Medical Discovery," one of "Smart-Weed" and one vial of "Pleasant Pellets," and now I can walk two miles in one day and do all my housework without any ill effects. Your medicines have done me more good than any I have ever taken, and I will always keep them on hand.

Respectfully yours,

MRS. MALINDA GODFREY.

**MRS. GODFREY.**

After the lapse of six years sends the following report:

My health is still good—thanks to your medicine. I believe I would have been dead these many days if it had not been for this medicine. I constantly recommend it to my friends. The family is always uneasy when there is not a bottle of Dr. Pierce's Golden Medical Discovery in the house.

Respectfully yours,

MRS. M. G.

THIN, PALE, NO STRENGTH, DISTRESSED FEELING IN CHEST.

DR. V. M. PIERCE, Buffalo, N. Y.



MRS. BATTEN.

Dear Sir:—For several years I was in such ill health that I was just barely able to drag around. I had very little appetite, got very thin and pale, had no strength left and suffered with a soreness and distressed feeling thru my chest. I really thought I was going into a decline, I was in such a miserable state. I doctored and took medicine with little or no relief. I was terribly worried about my condition when I saw Dr. Pierce's Golden Medical Discovery advertised and made up my mind I would give it a trial and by the time I had taken two bottles I was well and strong. It just gave me a new lease of life and made living a pleasure where it had been nothing but suffering. Since that experience with the "Golden Medical Discovery" I have always kept it in the house for use at all times to give in case of coughs or colds. And when my family was having the "flu" I gave

them the "Discovery" and it brought them thru in great shape. It was wonderful the way it acted.

Very truly yours,

MRS. W. J. BATTEN.

CHRONIC COUGH AFTER THE FLU.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—There has been a lot of Dr. Pierce's medicines used in my family and I have no hesitancy in saying that they always gave satisfactory results. My husband had the "flu" and it appeared as though he was never going to get well. It left him with a chronic cough. He would cough all night long, and suffered from severe headaches. He got so weak that he could not get out of the house. He was in a miserable state of health when he decided to take Dr. Pierce's Golden Medical Discovery. We could notice an improvement during the first bottle, and by the time he had taken three he was rid of the cough and the pains in his head, and was well and strong. He has been a strong healthy man ever since.

Very truly yours,

MRS. V. J. ALLEN.

HACKING COUGH.

Dr. Pierce's Cough Syrup Stops Cough.

DR. V. M. PIERCE, Buffalo, N. Y.

Dear Sir:—I have had considerable experience with Dr. Pierce's Cough Syrup and it has proved to be the best remedy of the kind I have ever tried. When I give it to my children I know what to expect for it always stops the cough.

A relative was bothered with a hacking cough and Dr. Pierce's Cough Syrup cured him. He had tried several other remedies to no avail.

Yours truly,

MRS. ALICE EBERLEY.



MRS. EBERLEY.

DISTRESSING COUGH.**"The First Bottle Made Me Feel Much Better."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—When I was about twenty years of age I had a distressing cough which eventually became very severe. I saw an advertisement of Dr. Pierce's Golden Medical Discovery and felt so sure it would help me that I had mother get me a bottle of it, for they all thought I was going down with consumption. The first bottle made me feel so much better that I kept right on taking it until the coughing and pain had disappeared and my lungs and bronchials were healed. I truly believe that Dr. Pierce's Golden Medical Discovery saved my life, and for that reason I have no hesitancy whatever in recommending it to all who suffer as I did or to those who are run-down in health and need a good tonic.

Yours very truly,
Miss EMMA STELLWAGON.

COLD ON THE LUNGS.**Dr. Pierce's Medicines Used Successfully by Members of the Family.**WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Some months ago I took a very severe cold on my lungs; had deep, dull pains all through them. I went to the family doctor and took his medicines but got no relief. I then procured four bottles of Doctor Pierce's Golden Medical Discovery, which I took as prescribed, and am now entirely cured and in robust health. My wife also has used the "Favorite Prescription" for womb trouble and was restored to perfect health.

My daughter has just finished two bottles of the "Favorite Prescription" with full satisfaction.

For the diseases for which they are prescribed I verily believe your remedies to be the very best that can be found.

If you so desire you can use this as a testimonial and with my heartiest approval.

Very gratefully yours,
GEO. W. KELLEY.



MR. KELLEY.

COMPLICATED CATARRH.**Persistent Treatment Resulted in Complete Cure.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had been a great sufferer from a complicated case of nasal catarrh extending from the head to the lungs. My throat was swollen so badly inside that it seemed as though I would suffocate, and it made me very nervous. By spells I was almost beside myself. Was in a weak run-down condition. Had doctored with our family doctor for three months and received no benefit whatever, and as I had used Dr. Pierce's medicines before, my thoughts were to write to him, which I did, and he outlined treatment for me. I have been taking the "Golden Medical Discovery" and Dr. Sage's Catarrh Remedy for nine months and can truthfully say that I feel like a new person. My head is perfectly clear and I have received benefit otherwise from the use of these medicines. I can heartily recommend Dr. Pierce's Golden Medical Discovery and Dr. Sage's Catarrh Remedy to any one suffering as I did.

Yours very truly,

Mrs. MARY E. BARTLETT.

RUN DOWN AND WEAK FOLLOWING INFLUENZA.

Dr. V. M. PIERCE, 665 Main St., Buffalo, N. Y.



MRS. J. H. MONROE.

Dear Sir:—Dr. Pierce's Golden Medical Discovery did wonders for me after I had the "flu." It is the best tonic that a person can take, it builds you up and makes you strong. I have had two attacks of "flu" and each time I was left in a terribly rundown and weakened state of health. I had no strength left, the least exertion I was "all in." Both times it left me with a bronchial cough that I could not get rid of and my stomach was weak and digestion poor. I took Dr. Pierce's Golden Medical Discovery and it cured me of the bronchial cough and completely built me up in a good strong, healthy state. In addition to doing this, it cured me of chronic constipation from which I had suffered for many years. I also gave the "Discovery" to my boy when he had the "flu" and it was just as beneficial in his case as it had been in mine.

Yours truly,

MRS. J. H. MONROE.

COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—When my baby was seven days old I took a cough. People said I was going into consumption. I took nothing but "Golden Medical Discovery" and it cured me right up. I am never without it. I give it to my children for the colic, diarrhea, and colds; it has never failed me so far. I could write all day and tell what Doctor Pierce's medicines have done for me. I can prove by truthful people what these remedies have done for me if anybody wants to know.

Yours very truly,

MRS. BESSIE B. HARRIS.

BRONCHITIS

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Dear Sir:—Dr. Pierce's Golden Medical Discovery has done a lot for me and I am glad to give a statement for publication. I had a very bad spell of bronchitis—would cough and choke up with phlegm, especially at night and it would break my rest. I got so nervous and weak I could hardly walk. I also had night sweats, had no appetite and was just a physical wreck. I could not get anything that would help me until I began taking Dr. Pierce's Golden Medical Discovery and it cured me of bronchitis. After my cough disappeared, I got well and strong. Since that experience with the "Golden Medical Discovery," whenever I get a cold or begin to cough, I take a bottle and it relieves me right away. In addition to being good for coughs, colds and bronchial trouble, "Golden Medical Discovery" is an excellent tonic and blood medicine.



MR. J. H. POWERS.

Sincerely yours,

J. H. POWERS.

COUGHED ALMOST CONSTANTLY.**Tried Two Doctors.**

DR. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.



MR. BECHTEL

Dear Sir:— I caught a severe cold and had the fight of my life to get rid of it. I coughed almost constantly until I was so weak I could hardly navigate. I tried two doctors, but neither gave me much relief. Finally I began using Dr. Pierce's Golden Medical Discovery, and after taking about one and a half dozen bottles in connection with the Pellets I was again in good health. I am satisfied the "Discovery" and "Pellets" saved my life. They also relieved me of a bad case of indigestion. Any person using Dr. Pierce's Remedies according to directions will surely make no mistake. We have not been without the "Pleasant Pellets" in our house for the last 30 years, also Dr. Pierce's Extract of Smart-Weed, which is excellent to relieve pain.

Very truly yours,

JOHN G. BECHTEL.

CHILDREN HAD TERRIBLE COUGHS.**Druggist Advised Dr. Pierce's Cough Syrup.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:— Last winter my children all had terrible coughs, and after the remedies which I used failed to relieve them, I became somewhat alarmed, and went to a druggist for advice. He suggested that I give them Dr. Pierce's Cough Syrup. I did so and it stopped their coughing right away and I had no more trouble of the kind the rest of the winter.

Very truly yours,

MRS. J. TRAEGER.

COUGH; LOST WEIGHT.

**After Taking Golden Medical Discovery Weight Increased
from 115 to 138 Pounds.**

DR. V. M. PIERCE,
Pres. WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Dear Sir:— A bad cough had troubled me for a long time and I could get nothing to do me any good until a short time ago I kept noticing testimonials in the paper of how Dr. Pierce's Golden Medical Discovery had relieved and cured others, so I decided to try it. I have taken four bottles and my cough is about stopped. I had gone down in weight to one hundred and fifteen pounds and I now weigh one hundred and thirty-eight. I was so nervous I could not sleep but now I sleep good. I think the "Discovery" is wonderful.

Respectfully,

MRS. LOUISE CLELAND.



MRS. CLELAND.

BRONCHITIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main St., Buffalo, N. Y.

Gentlemen—I find Dr. Pierce's medicines very excellent for the ailments for which they are recommended. The Golden Medical Discovery I have found very beneficial. For over a year I suffered with bronchial trouble. I would cough and my bronchial tubes seemed to be congested and inflamed. I doctored but nothing gave relief until I began taking Golden Medical Discovery and it so completely cured me that I have not had any return of this condition.

And when I suffer with weakness, become nervous and run-down, Dr. Pierce's Favorite Prescription builds me right up in health and strength. The Golden Medical Discovery and the Favorite Prescription are both worthy of any recommendation I can give them.

Yours very truly,

MRS. PETER COMMISSARIS.

RUN-DOWN, CHRONIC COUGH.

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL,
Buffalo, N. Y.



MRS. KEIM.

Dear Sir—I can highly recommend Dr. Pierce's medicines. Some years ago my health failed, I became all run-down and had a chronic cough that annoyed me considerably, but after taking Dr. Pierce's Golden Medical Discovery and the Favorite Prescription my health returned and I became strong. What these medicines did for me I feel they will do for other sufferers if they will but give them a trial.

MRS. ANNA KEIM.

FOR COUGHS AND COLDS.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.

Dear Sir—My children have always been subject to coughs and colds. I always give them Dr. Pierce's Cough Syrup. I find it very quick in relieving them.

I am bothered quite a lot with biliousness and sick headaches. I find Dr. Pierce's Pleasant Pellets a good cure for these ailments; they are very pleasant, never causing distress. The "Pellets" are the best system regulator I have ever found. I can recommend Dr. Pierce's medicines as being the very best.

Very truly yours,

MRS. FRED PIERCE.

BRONCHIAL TROUBLE, DEEP-SEATED COUGH, COLD, WEAK STOMACH.

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.



MR. FISHER.

liver, or to relieve constipation, I have never found anything in the way of medicine that can equal Dr. Pierce's Pleasant Pellets. They are the mildest and also the best regulator of the stomach, liver and bowels that anyone can take.

Yours truly,

TAYLOR FISHER.

BAD COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—I contracted a heavy cold causing a bad cough. My tonsils were also swollen and inflamed. My mother suggested Dr. Pierce's Golden Medical Discovery and it was a wise suggestion, for before I had finished my first bottle I was freed from the cold, and the coughing ceased. Its fine effect on the blood cleansed the poisons from my system and built me up. I grew stronger and began to put on flesh. The tonic and cleansing effect of "Golden Medical Discovery" cannot be appreciated until used.

Very truly yours,

MRS. RUBY HOWE.

BRONCHIAL TROUBLE

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.

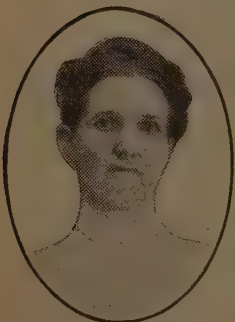
Dear Sir:—My little girl, Helen, who is now eight years old, suffered from bronchial trouble ever since she was three years old. Every winter and in damp weather she would fill up and choke with the phlegm; it would be necessary for me to apply hot applications to give her relief until the doctor came. I had spent many dollars for medicine and doctor's attendance for four years, but every winter the bronchial trouble returned—more serious each time. I knew of Dr. Pierce's Golden Medical Discovery but never thought of it for one so young as she. At last I determined to try it, giving her a half dose, frequently, and, to my surprise I found it made a wonderful change. It built her up and cleared her system so that now for a whole year she has had no sign of bronchial trouble. I now have a well and healthy child and am indeed a grateful mother.

Very sincerely yours,



MISS HELEN NASH.

MRS. MINNIE B. NASH.

LA GRIPPE.**Doctor Said Lung Was Affected.**

MRS. TAYLOR.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I took La Grippe—had terrible pain in my side and the doctor said one lung was affected. Was in bed five weeks. Had cold sweats and was like one who was dying. I did not think I would ever get strong again.

I used Dr. Pierce's Golden Medical Discovery for about five months, and now I am strong and have no cough of any kind. We used Dr. Pierce's medicines in the family for a number of years, but this winter I tried them myself and they are all that they are claimed to be. I cannot praise them enough, and hope anyone using these remedies will not give up; I often thought of doing so myself because I was so weak and discouraged, but thanks to Doctor Pierce's family medicines I am a well and happy woman.

Yours truly,

MRS. S. TAYLOR.

COUGH—GIVEN UP TO DIE.

DOCTOR V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—My brother-in-law used "Golden Medical Discovery" and was cured of a severe cough. This called my attention to it. I was in very bad shape; was run-down and had a bad cough. I got worse and was doctored for pneumonia, but instead of getting better I got weaker. Then I stopped the doctor's medicines and used "Golden Medical Discovery" and Cod Liver Oil. After a month I began to gain. I had been given up to die. This treatment I kept on with for months and I then added "Favorite Prescription." I had been troubled also with a weak heart. After sticking to the use of the "Discovery" and "Prescription" for a year, I was out of bed and could walk out of doors. I kept up the "Golden Medical Discovery" and Cod Liver Oil for a long time. I always took the "Discovery" according to directions and I feel that it had a great deal to do in saving my life. I shall always feel very grateful to Doctor Pierce for his "Golden Medical Discovery."

My daughter is now using it and it is the best tonic I have ever been able to find. It has no alcohol in it and is a perfect tonic.

Very truly yours,

MRS. C. SHAW.

NASAL POLYPI.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

Gentlemen—It is with pleasure that I can testify to your skillful operation in removing a number of nasal tumors.

For years I had been a great sufferer from acute headaches, caused by the tumors.

I cannot speak too highly of the benefit I received at your Institution the two months I stayed with you. I feel sure of a permanent cure as I do not have the headaches as formerly.

Yours respectfully,

GEORGE H. BAILEY.

G. H. BAILEY, Esq.



SEVERE COUGH, LOSS OF WEIGHT AND APPETITE.**Got Strong Again by Using "Discovery."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—When I had a severe cough, night sweats, loss of weight and appetite, I was persuaded to try Dr. Pierce's Golden Medical Discovery. I took it faithfully for about forty days and gradually I gained; the cough disappeared and I put on flesh and got strong again. I took no other medicine at the time. It did a great deal of good and I shall always feel grateful to Dr. Pierce for this remedy. I have had no cough for fourteen years, since I was cured by "Golden Medical Discovery."

Yours truly,

MRS. LUCY MCCOY.

"HELPED ME AT ONCE."WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663
Main Street, Buffalo, N. Y.:

Gentlemen—I had an obstinate cough which I was unable to get rid of. I tried several remedies which did little good. Then I began taking Doctor Pierce's Golden Medical Discovery; it helped me at once, and by continuing its use for a few weeks the cough left me entirely. I have had no return since, except slight colds. I keep "Golden Medical Discovery" in the house all the time as a family remedy.

Yours respectfully.

GUS. RAMBACHER.



MR. GUS. RAMBACHER.

"ALL THOUGHT I HAD CONSUMPTION."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am glad to send you a testimonial in regard to what your medicine has done for me.

Last fall I was taken down; my case was a very dangerous one. I became very weak, had night-sweats, also a very bad cough. Indeed it seemed that my time on earth was short. All thought I had consumption. Having in my possession one of your books, the People's Common Sense Medical Adviser, I began to read up on my case and the effects and results of Doctor Pierce's medicines. I bought a bottle of "Golden Medical Discovery." The first bottle helped me, and after I had taken six bottles I was completely recovered, and returned to my pulpit. I now take personal pride in recommending this medicine to others.

Very truly yours,

REV. JAMES M. HARRIS.

SEVERE COLD, FOLLOWED BY LOSS OF APPETITE, IMPAIRED DIGESTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.



MR. WILSON

Gentlemen:—Some two years ago a severe cold left me with poor appetite and digestion very much impaired. Doctors first prescribed one thing and then another, but the medicines failed to relieve my condition in any way. Finally, I purchased a bottle of Dr. Pierce's Golden Medical Discovery at one of our drug stores, and almost as soon as I commenced taking it I noticed a change for the better. When I had taken but half the bottle my appetite had returned so that I was hungry before meal time, my digestion was back to normal, and all the distress I previously suffered had completely vanished. The "Discovery" seemed like a food that my run-down system needed, as the very first dose brought me beneficial results. I was surprised at my speedy recovery.

Very sincerely yours,

JOHN C. WILSON.

HEAVY COLD AND COUGH.

Lost all Ambition and Strength, Nervous, Despondent.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—This statement of my experience with Dr. Pierce's Golden Medical Discovery for the past four years may sound as though it could not be all fact, but I assure you it is. Four years ago, after my youngest child came, I was taken down with a heavy cold and cough. My appetite became poorer and I grew weaker. I lost all ambition and strength and was nervous and despondent. I felt and acted as though I had grown old and feeble. This was my condition when I first heard of, and began to take, the "Golden Medical Discovery." Gradually I grew stronger and more cheerful and my cough left me entirely. I take the "Golden Medical Discovery" occasionally now as a tonic, though I feel absolutely well.

Very respectfully yours,

Mrs. P. J. STOCKSCHLAEDER.

COLD, RUNDOWN.

Advised by Druggist to take "Golden Medical Discovery."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—Two years ago last winter I caught a very bad cold and was all rundown. I was advised by our druggist to take Dr. Pierce's Golden Medical Discovery, which I did with the greatest success. It cleared out my throat and bronchial tubes and loosened the phlegm, and at the same time it built me up. I would not be without the "Discovery," and I trust this statement will be of benefit to others who suffer from colds as I did.

Respectfully yours,

WILLIAM MUNKEL.



MR. MUNKEL.

"A PHARMACIST RECOMMENDS THE REMEDY THAT CURES HIM."

World's Dispensary Medical Association, Buffalo, N. Y.:



S. B. SCOBELL, ESQ.

Gentlemen—Long hours of business and close confinement in my pharmacy undermined my system and I became much run down. When I realized that I needed something to build me up it was Dr. Pierce's Golden Medical Discovery which I selected, and, as I anticipated, my health was soon restored. Experience has proved to me that Dr. Pierce's medicines merit the endorsement they receive. The tremendous demand for these remedies is in itself a strong endorsement, and I can most conscientiously state that the sale of Doctor Pierce's Favorite Prescription and "Golden Medical Discovery" exceeds that of any other remedies where I am in business. I know of scores of people who have regained health by the use of these remedies.

Yours truly,

SIDNEY B. SCOBELL.

HOW TRAVELING INVALIDS MAY BE IMPOSED UPON.

PREJUDICED PEOPLE OFTEN MISREPRESENT US.

THE FOLLOWING LETTER FROM A SOUTH CAROLINA
GENTLEMAN ILLUSTRATES THIS FACT:

World's Dispensary Medical Association, Buffalo, N. Y.:

Gentlemen—It is now about five years since I spent eight days at the Invalids' Hotel and Surgical Institute, under treatment for a chronic disease of eighteen years' standing. I had given up to die. Going to your Dispensary was a last resort with me; I had undergone a surgical operation at the hands of my family physician from which I grew worse every day for eight months, so that I very despondently started for your Institution; and when I had traveled eleven hundred miles I was made more despondent by inquiring of a man how far I had to travel to reach Buffalo, N. Y.: He answered, "Just one hundred miles." I then inquired of him if he had ever been in Buffalo, N. Y. He replied, "Many a time." I then asked him, what about Dr. Pierce's world-famed Surgical Institute? "Oh, it's a humbug. They have some drawings or pictures taken from some government buildings, that's where they get that fine building you see pictured in their books and pamphlets."

I don't suppose there ever was a sadder heart entered the door of the Invalids' Hotel than that heart of mine; but it was soon made glad to be glad ever since. During the first night in the Invalids' Hotel I met and talked with patients afflicted as I was. Many of them were cured and talking of going home next day, and sure enough, they went; but I never missed them in number for others kept coming.

I can honestly and truthfully say that the World's Dispensary Medical Association of Buffalo, N. Y., is anything else than a humbug. The reason why they are not humbugs is plain. They continue to perform wonderful cures and treat their patients with unsurpassed nursing, and a kinder lot of physicians, surgeons and nurses I don't believe can be found in the world.

I cheerfully advise all persons suffering from chronic diseases not to stop to count the distance from where they live to Buffalo, N. Y., but go straight to the Invalids' Hotel and Surgical Institute without delay, for it is by the will of God and their skill that I am living to-day.

Yours truly,

L. M. McPhail

INFLAMMATION OF THE STOMACH. (GASTRITIS.)

Gastritis is generally defined as an inflammation of the mucous membrane of the stomach. Gastritis may be either *acute* or *chronic*.

Acute Gastritis generally occurs as a result or complication of other diseases. It is an occasional feature in scarlatina, serious cases of bilious fever, and in cutaneous affections of every description. The mucous membrane of the stomach is placed in intimate communication with all the vital organs, by means of the nerves of the solar-plexus.

The Early Symptoms of acute gastritis are a burning sensation in the stomach, accompanied by nausea and frequent vomiting. The respiratory movements are rapid and shallow, the pulse is hard and short, and as the disease progresses, becomes small, frequent, and thready. The tongue usually retains its natural appearance, but it is sometimes dry and tinged with a vivid scarlet at the tip and edges. Intense thirst and hiccough are occasional symptoms. The facial expression is haggard and indicative of the most intense suffering. The stomach will not retain the mildest liquids. In the early stages of the disease, the ejections consist of chyme and mucus, streaked with blood. As it progresses, the vomiting becomes a sort of regurgitation, the contents of the stomach being ejected without any apparent nausea or effort. The ejections then consist of a dark-colored granular matter resembling what is known in yellow fever as *black vomit*.

Causes. Formerly it was supposed that this was a very common disorder, and the term *acute gastritis* was applied to every development of symptomatic fever. But late clinical and pathological investigations clearly indicate that acute gastritis is of rare occurrence. It may be caused by the excessive and habitual use of alcoholic drinks, especially if taken without food, by copious draughts of cold water, by intense emotions, or by the ingestion of irritating and corrosive poisons.

Where the former causes are known not to exist the presence of poison should always be suspected. As the cause sometimes becomes a matter of legal investigation, it is very important that the practitioner should be able to determine the *real* origin. If caused by poison, the disease is very suddenly developed, the patient complaining of a very intense burning sensation in the throat and the lining membrane of the mouth, which will generally show the action of the poison. A diarrhea is also more apt to accompany the disease. If inorganic or vegetable poisons are known or suspected irritants the appropriate antidotes should be promptly administered. For a list of the principal poisons and their antidotes, with practical suggestions for treatment, the reader is referred to the article in this volume on Accidents and Emergencies.

Treatment. The inflammation should be allayed. Small pieces of ice, swallowed, will generally allay the thirst and

vomiting, and a mucilage of slippery-elm is very soothing to the inflamed mucous membrane. This is an important disease, and its management should be entrusted to a skilful physician.

CHRONIC INFLAMMATION OF THE STOMACH.

Chronic Gastritis is sometimes mistaken for dyspepsia or gastralgia. It is very necessary to discriminate between these diseases, as the appropriate remedies of the latter will often only aggravate and augment the former.

A chronic inflammation of the stomach is a very common affection and has many phases, but the term chronic gastritis is applied only to that species of inflammation occasioned and accompanied by irritation. It is seldom a result of the *acute* form.

The Symptoms of chronic gastritis are various and sometimes vague. Among those which are prominent we may mention an irregular appetite. At times it is voracious and the patient will consume every available article of diet, while at others he will experience nausea and disgust at the sight of food. Even when very hungry, one mouthful of food will sometimes produce satiety and cause vomiting. The appearance of the tongue is variable, sometimes natural, at others thickly coated. The desire for drink is capricious, varying from intense thirst to indifference. Another prominent symptom is a sense of heaviness and heat in the epigastric region, after partaking of food. Often a small quantity, as a teaspoonful of milk will produce a sensation of weight, as a heavy ball lying at the pit of the stomach. This symptom is frequently accompanied by a frontal headache and a small and wiry pulse. Dull or shooting pains are experienced in the stomach and between the shoulders, and the patient becomes weary, melancholy and emaciated.

Causes. The general cause of chronic gastritis is excess in eating or drinking, and the use of alcoholic liquors. We have known it to be produced by drinking *hard* cider. Great mental excitement predisposes the system to this affection. Occasionally it is a result of febrile diseases, as scarlatina, typhoid fever, etc. In some families there is a constitutional tendency to its development.

Treatment. All medicines which tend to irritate the stomach, should be studiously avoided. The bowels should be kept regular, and the skin clean by frequent bathing. Stimulants of all kinds must be avoided. As a principle article of diet, we would recommend milk and farinaceous articles. If these precautions be observed nature will sometimes effect a cure. Lime water and the subnitrate of bismuth, in twenty-grain doses three or four times a day, are useful to allay irritation. Other suggestions applicable to its domestic management,

may be found under the hygienic and medicinal treatment of dyspepsia, to which we refer the reader.

NEURALGIA OF THE STOMACH (GASTRALGIA)

Gastralgia is a neuralgic affection of the stomach, unaccompanied by inflammation. It is sometimes mistaken for chronic gastritis, although there is a marked difference in the symptoms.

A Prominent Symptom of Gastralgia is a *paroxysmal* pain radiating from the epigastric region (lower end of breast bone) to all parts of the thoracic cavity (chest). The pain is sometimes lessened by walking, lying on left side, or by gentle pressure, and usually abates after eating, but is renewed in a few hours. The patient occasionally experiences a sense of heaviness at the pit of the stomach, nausea, and frequently salty eructations. The tongue is white, the appetite variable, and there is no desire for liquids. The sleep is usually refreshing, and when not suffering from acute pain the patient is apparently well.

The *distinguishing* symptom of this disease is a feeling of intense despondency, and, sometimes, a morbid fear of death.

An effectual method of distinguishing between gastralgia and chronic gastritis is by the administration of an alcoholic stimulant. If gastritis be the affection the pain will be augmented; whereas, if it be gastralgia, it will be relieved.

Cause. The cause of gastralgia is a local or sympathetic irritation of the nerves distributed to the stomach.

Treatment. The pain of gastralgia is sometimes allayed by using half a teaspoonful of saleratus, or bicarbonate of soda, in water, and repeating the dose, if the attack is not relieved.

One of the most effective remedies for preventing a return of the attacks is that invigorating tonic and alterative, the "Golden Medical Discovery," in fluid or tablet form. The patient should be careful in diet, and not eat too much food, which should not only be of a nutritious kind, but easy of digestion. Cleanliness, suitable clothing, bodily warmth, exercise and rest must not be neglected. Sometimes it is lingering and requires long persistence in hygienic and medicinal treatment. Everything tending to promote the tone of the digestive organs and improve the functions of the system generally may be considered advantageous in this neuralgic affection.

PERITONITIS.

The *peritoneum*, or serous membrane which lines the abdominal cavity and invests the intestines, is liable to become inflamed. When this occurs, the affection is termed peritonitis, and may be divided into the *acute* and *chronic* forms.

Acute Peritonitis. This form may be circumscribed; that is, confined to one spot, or it may extend over the entire surface of the peritoneum, when it is known as *general*.

Symptoms. There is headache, quick pulse, tongue coated white, countenance pallid, features pinched, respiration difficult, nausea and vomiting, severe pain in the abdomen, which is extremely sensitive to pressure and becomes very much distended. There is also pain in the limbs, the bowels are constipated, and, in exceptional cases, diarrhea is a prominent symptom. The urine is deficient in quantity, and there is sleeplessness, chilliness, and great general prostration. Vomiting and coughing, or sneezing, increases the pain. An erect position occasions intense suffering. The patient is compelled to assume a recumbent posture and is inclined to lie on the back, for in that position the sufferer experiences the least pressure of the vital organs against the peritoneum. There is also an inclination to draw up the lower limbs and retain them in a flexed position.

Causes. Prominent among these are injuries which have been inflicted upon the intestines, compression of the colon, or rectum, perforation of the stomach or bowels, either by violence or some pre-existing disease, thus allowing the discharge of blood, urine, bile, or fecal matter into the abdominal cavity; also abortion, over-exertion, and exposure to wet or cold. As acute peritonitis is always a grave disease, involving more or less danger to life, it is the wisest course to employ a physician and trust the case to his management. The same remark is equally applicable to the chronic form of the disease.

Chronic Peritonitis. Like the acute, it may be either *circumscribed* or *general*. This form is sometimes, though rarely, a sequel of the acute. When it appears independently of the acute, it is generally associated with some cancerous affection pertaining to the abdominal cavity, and the inflammation is induced by the tumor. If chronic peritonitis be connected with the *tubercular* diathesis, tubercles may be discovered upon the surface of the stomach and alimentary canal, and may also be found in the lungs and brain.

When the affection is not tubercular there will appear in the abdominal cavity an effusion of serous fluid of greater or less quantity, mingled with blood and pus. When such an effusion takes place, the abdomen gradually increases in size, or becomes smaller than is natural. There is pain, attended by soreness upon pressure, and the patient becomes emaciated.

Inflammation of the peritoneum is frequently an accompaniment of *puerperal fever*, which is a disease peculiar to childbirth, and which may arise from cold, or be communicated from one parturient patient to another by midwives.

Treatment. In the remedial management of acute peritonitis, it is obviously necessary to use some agent which will at once influence and change the congested state and inflammatory condition. One of the best agents employed to make a decided impression upon the vascular system, subdue inflammation, and modify its action is the fluid extract of *veratrum viride*, administered in full doses, and repeated until the system shows its effects in a decided manner. Warm fomentations applied to the abdomen are sometimes very serviceable, and are objectionable only because of their liability to dampen the bed-clothes. When the abdomen will bear a thick, warm poultice, apply it and then cover the entire surface with oiled silk. The tincture of opium or morphine in doses sufficient to relieve pain and quiet the peristaltic action of the intestines is generally necessary but should be given by the physician only.

EPIDEMIC CHOLERA.

This is an epidemic disease, supposed to be due to an impalpable specific poison, but as to the exact nature of this poisonous matter nothing definite is known.

This plague first made its appearance on our continent in 1834. Owing to its great fatality, it is a disease much to be dreaded.

Symptoms. These are well defined. It is characterized in its earlier stages by pain in the stomach and bowels, especially in the umbilical region, nausea, vomiting, diarrhea; later, the purging is excessive, and the matter dejected resembles rice-water and contains white, solid, curd-like matter. The patient loses strength, and sinks rapidly. The secretory organs fail to perform their functions normally, the skin is sometimes moist, but oftener cold and dry; but little if any bile is found in the excretions, and the urine voided is very scanty. There is general nervous derangement, as indicated by the spasmodic contraction or cramping of the muscles. This first attacks the extremities, but soon affects the entire body, and gives rise to excruciating pains. The head is affected by singing, roaring, disagreeable noises in the ears, the pulse is feeble, but quick, the nails are of a bluish color, the tongue is coated white, the eyes are sunken, and the patient has a corpse-like appearance; the temperature of the body rapidly falls, the surface becomes deathly cold, and, unless the disease is promptly arrested in its course, speedy dissolution follows. The disease is rarely prolonged beyond twenty-four hours, and sometimes terminates within three or four hours after its first attack.

Treatment. The kind of medicine required depends upon the

severity of the attack and stage of the disease. In all cholera epidemics, there are premonitory symptoms, such as an uneasy sensation at the pit of the stomach, and a rumbling of the bowels. This is apt to be followed by a painless diarrhea, which occasions no alarm, and the patient pays but little attention to it. Herein is the great and dangerous mistake. The patient is already in the stage of *invasion*, which must be promptly arrested, or he will suddenly be precipitated into the stage of *collapse*. The patient should lie down and have placed about him bottles filled with hot water, thereby exciting warmth upon the surface of the body. At the same time, administer two teaspoonfuls of the Extract of Smart-weed. If the symptoms are urgent repeat the dose every fifteen minutes. In either the stage of *invasion* or *collapse* the leading indication is to establish *reaction* by promoting perspiration. Bathe the feet in water as hot as can be borne, give the Extract of Smart-weed freely, and thus endeavor to excite profuse diaphoresis. No time should be lost, for delays are dangerous. When the reaction is established, the patient should remain quiet and not attempt to exert himself.

After reaction has taken place, the sweating should be maintained for twelve hours, and the patient should drink slippery-elm tea and toast-water, and partake sparingly of soft toasted bread and chicken broth. The food should be fluid and nutritious, but taken in small quantities. Do not disturb the bowels with laxatives until the third day after the patient begins to improve, and then they may be moved by an injection of warm water. Great care should be taken that the patient does not indulge too soon or too freely in the use of food. When a skillful physician can be had, no time should be lost in securing his services, but since in epidemics of this nature, medical men are generally overworked, and not always easily and promptly to be had, we have been quite explicit in giving full directions for treatment.

Cholera Morbus, also known as *sporadic cholera* and *simple cholera*, usually occurs during the summer months. The attack may be sudden, although it is usually preceded by a sensation of uneasiness and colicky pains in the stomach.

Symptoms. Nausea, vomiting and purging are the most prominent symptoms. The discharge from the bowels is at first of a thin, yellow appearance, but finally it becomes almost colorless. Sometimes, after the contents proper of the bowels have been evacuated, the dejections have a bilious appearance. Severe cramps and pain accompany the vomiting. The vomiting and purging usually occur in paroxysms, but finally become less frequent, a reaction takes place, the extremities grow warm, and the patient gradually recovers. It may be accompanied by intense thirst and a quick pulse, yet the surface may be cool.

Causes. Cholera morbus is most prevalent in warm climates, and especially in malarial districts. It is generally the result of eating indigestible articles of food, such as unripe fruit or uncooked vegetables. Stimulating drinks and those articles which furnish the elements for fermentation also favor the production of this disease.

Treatment. If the attack be superinduced by eating unripe or stale fruit, it may be proper to give an emetic or a cathartic, but ordinarily first give a full dose of the Extract of Smart-weed, and, if the vomited matter is very sour, give the patient a weak, alkaline drink, which may be made by using one-half teaspoonful saleratus, or bicarbonate of soda, in one-half glass of water. This will not only assist in neutralizing the acidity of the stomach, but will help to allay the thirst and accompanying fever. If the patient throw up the first dose of the Extract of Swart-weed, a second should be given. Do not allow the patient to drink cold water, and give only tablespoonful doses of the alkaline solution every thirty minutes. If the thirst is great, occasionally give a tablespoonful of a tea made from scorched Indian meal, which not only allays the desire to drink, but also the irritation of the stomach. The patient should be well covered in bed and kept warm. Morphine may be given hypodermically by a physician in severe cases to relieve the pain and check the purging. Hot fomentations applied to the bowels are very valuable. A mustard plaster applied over the abdomen will assist materially in relieving the nausea and vomiting. It should not be kept on sufficiently long to blister. When the affection is promptly treated as we have suggested, recovery is generally prompt. If, however, the disease does not yield quickly to these measures, the family physician should be called.

DISEASES OF THE HEART.

Diseases of the heart are classified as either *functional* or *organic*. We shall dwell only briefly upon purely *functional* derangements of the heart; as *increased*, or excited action, *defective*, or enfeebled action, and *irregular* action.

Increased action of the heart, indicated by palpitation, or increased number of the beats, may be caused *mechanically*, as by distention of the stomach, which, by preventing the descent of the diaphragm, excites the action of this organ. Or it may be a *sympathetic* disturbance produced through the nervous system; thus the emotions and passions may suddenly arouse the heart to excessive action; or the presence of worms in the intestines, improper food, and masturbation, may be the cause. The use of tea, tobacco, and alcoholic drinks excites the heart. We have found that the excessive use of tobacco is very frequently the cause of functional derangement of this organ. Deficiency of the blood, as in anæmia, may be the cause of palpitation of the heart.

Functional disturbance of the heart's action is manifested by palpitation, irregularity, intermissions, a rolling or tumbling movement, and a feeling as if the heart were in the throat. These symptoms often give rise to great apprehension, anxiety, fear, and depression of mind.

Treatment. The curative treatment of functional derangement of the heart must have reference to the causes producing it. If it is in consequence of indigestion, the appetite and digestion should be improved by observing regularity in the time of taking the meals, and eating very easily-digested food. The use of strong tea, coffee, tobacco, and spirits, should be interdicted, and regular exercise, rest, and sleep should be enjoined.

In all cases, the domestic management should include daily bathing, exercise in the open air, regular habits, and the avoidance of all causes which tend to excite the heart's irregularity.

The remedial treatment of these functional affections ought to be confided to some experienced physician, as the remedies are not within the ordinary reach of all families, nor if they were, would they have sufficient experience and knowledge to select and properly administer them.

ORGANIC DISEASE OF THE HEART.

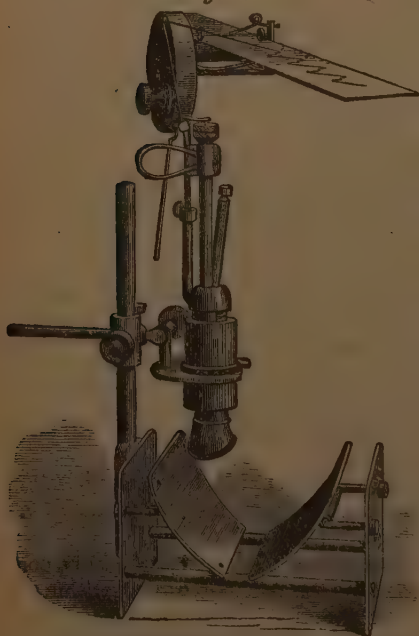
By organic disease we mean disease pertaining to the structure of the heart itself, in contradistinction to *functional* disease, which has reference merely to the *action* of the heart. The heart is subject to various organic diseases, but we have only space to consider, in the briefest manner, those which are the most common. It is essential that the reader should have some knowledge of the anatomy and functions of the various parts of the heart in order that its diseases and their effects may be comprehended; therefore the anatomy and physiology of this

organ, given in Part I, Chapter VII, of this work, should be carefully studied.

It is very evident that any disease which affects the structure and function of any part of the heart must, necessarily, give rise to certain modifications of the pulse, sounds, etc. It is through the observation and study of these modifications and changes that we arrive at a correct diagnosis as to the precise location and character of the disease.

Until within comparatively recent years, physicians were very much in the dark regarding diseases of the heart. Now, however, with a

Fig. 1.



Pond's Sphygmograph.

thoro knowledge of the anatomy, physiology, and pathology of the heart and the parts surrounding it, and with the aid of instruments which modern ingenuity has given us, we are able to diagnosticate with precision the slightest lesions of any part of this important organ, and, knowing their nature, to map out an appropriate course of treatment. With the aid of the stethoscope, we are able to distinguish the slightest deviation from normal sounds, and, by noting the character of the sounds, the time when it occurs, area over which it is heard most distinctly, and the direction in which it is transmitted, to locate the lesion which produces it. By the aid of the sphygmograph, invented by Herrisson, and afterward improved upon by

Ludwig, Vierordt, Marey, and lastly by Pond, of our own country, the pulsations at the wrist are registered, and thus made perceptible to the eye. We herewith give a cut, Fig. 1, of Pond's instrument, and two tracings made by it. The first is a healthy tracing, and the second indicates enlargement, technically called hypertrophy, of the heart.

Pericarditis, or inflammation of the membranous sac which surrounds the heart, may be either acute or chronic. The symptoms in acute pericarditis are made up from co-existing affections, and are frequently associated with articular rheumatism, Bright's disease of the

kidneys, or pleuritis. The intensity of the pain varies in different individuals. The action of the heart is increased, the pulse is quick, and vomiting sometimes takes place. When this disease is developed in the course of rheumatism, it is known as rheumatic pericarditis, and is almost always associated with endocarditis. In some cases acute pericarditis is very distressing, in others it is mild. The fatality is not due so much to the disease itself, as to co-existing affections. When it does not prove fatal, it sometimes becomes chronic.

In chronic pericarditis, pain is seldom present. The heart is generally more or less enlarged, its sounds are feeble, the first being weaker than the second.

Endocarditis, or inflammation of the membrane lining the cavities of the heart, is one of the most frequent forms of heart disease. It is almost invariably associated with acute rheumatism, or some of the eruptive fevers, as small-pox, scarlet fever, etc., and is due to the irritation of the unhealthy blood passing through the heart. The disease is generally attended with little or no pain, and, consequently, if the attending physician be not on the alert, it will escape his observation. When associated with acute rheumatism, the disease is only in rare instances directly fatal, but in the great majority of cases it leaves permanent organic changes, which sooner or later develop into valvular affections, and these may eventually destroy life. When the disease occurs, however, as the result of pyæmia (blood-poisoning produced by the absorption of decomposing pus or "matter") or of diphtheria, or when it is associated with any other septic conditions, it constitutes a very grave element. Collections of matter formed on the membrane lining the heart and covering its valves, are liable to be detached and carried by the circulation to the brain, spleen, or liver, where they plug up some artery, and thus cause death of the parts which it supplies with blood.

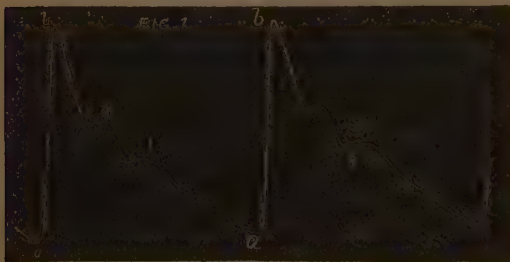
Chronic endocarditis generally occurs in rheumatic subjects, unassociated with any acute disease. It may exist without any marked symptoms, except, perhaps, a sense of oppression and uneasiness in the chest, with palpitation. It produces a thickening and hardening of the membrane lining the heart, and generally causes a retraction, adhesion, and degeneration of some of the valves of the heart, thus bringing on valvular disease.

Valvular Lesions are, as we have seen, very frequently the result of endocarditis. They are of two kinds. First, those which prevent the valves from flapping back close to the walls of the ventricles, or arteries, thus diminishing, to a greater or lesser extent, the size of the valvular orifices, and offering an obstruction to the free flow of blood through them; and which consist of a thickening and retraction, or adhesion of the valves, chalky deposits, morbid growths, etc. Secondly, those which prevent complete closure of the valves, and thus permit a return of the blood into the cavity from which it has just

been expelled. These latter consist of retractions, perforations, and partial detachments of the valves, chalky deposits around the base of the valves and in them, and rupture of the chordæ tendinæ.

These two forms of lesions are usually co-existent, one generally being more extensive than the other. Thus, the regurgitation may be slight, and the obstruction great, or *vice versa*. The symptoms and disturbance of the circulation are altogether dependent upon the location and form of the lesion, or lesions. Each valvular lesion has its characteristic sound, or murmur, which is heard at a particular period in the cycle of the heart's action, and it is, as before stated, from these sounds, from tracings of the pulse, and from the many other indications, that we arrive at a diagnosis. Thus, in obstruction of the orifice at the junction of the aorta with the left ventricle, one of the most frequent of valvular lesions, a murmur, generally harsh in char-

Fig. 2.



The above is a representation of a tracing of a healthy pulse as made with the Sphygmograph.

acter, is heard with the first sound of the heart, with greatest intensity directly over the normal position or the aortic semi-lunar valves. This is conveyed along the large arteries, and may be heard, less distinctly, over the carotids. In the sphygmo-

graphic tracing, the line of ascent is less abrupt than in the normal tracing (Fig. 2), and not nearly so high, and it is rounded at the top. In aortic regurgitation, the line of ascent is similar to that of the healthy tracing, but the line of descent is very sudden. The left side of the heart is almost invariably the primary seat of these affections, but in the latter stages of their course, the right side also is liable to become involved, and, as a consequence, there then exists great disturbance of the venous circulation, with a damming back of the blood in the veins, and passive congestion of the liver, kidneys and brain, followed by dropsy, albumen in the urine, etc.

Hypertrophy of the Heart consists of a thickening of the muscular walls of this organ. It may be confined to one portion of the heart, or it may affect the entire organ. The affection has been divided into the following three forms: *Simple hypertrophy*, in which there is an increase in the thickness of the walls of the heart, without any augmentation in the capacity of the cavities, and which is usually the result of chronic Bright's disease, or great intemperance; *eccentric hypertrophy*, in which there is an increase in the thickness of the walls of the heart, together

with increase in the capacity of the cavities, and which is generally the result of some valvular lesion; and *concentric hypertrophy*, in which there is an increase in the thickness of the walls of the heart, with a decrease in the capacity of the cavities. Valvular lesions, obstructions in the large arteries, or, in fact, any thing which calls upon the heart to constantly perform an undue amount of labor must, necessarily, produce hypertrophy of its muscular walls, just as the undue amount of labor which the blacksmith's arm is called upon to perform produces hypertrophy of its muscles. With this condition, the pulse is hard and incompressible, and the line of ascent in the sphygmographic tracing (Fig. 3) is higher than in health.

Dilatation of the Heart is a condition which is closely allied to hypertrophy of the heart, and which consists of an increase in the capacity of the cavities of the heart, with diminished contractile power. In simple dilatation, there is an increase in the capacities of the cavities, without any marked change in the walls of the organ. It is usually the result of some disease which has produced great muscular prostration, and which has interfered materially with nutrition. More frequently however, dilatation is the result of valvular lesions, and is associated with hypertrophy, there being an increase in the thickness of the walls with a diminution of the contractile power. The hypertrophy from valvular lesions goes on increasing until it reaches a certain stage, when dilatation commences, the two conditions then being associated.

Fig. 3.



Atrophy of the heart is the opposite to hypertrophy, and signifies a wasting away of the muscular substance, and a diminution in the thickness of the walls of the heart. Its power is diminished in proportion to the degree of atrophy.

Fatty Degeneration of the heart consists in the deposition of particles of fat within the *sarcolemma* (the sheath which invests the fibrils), which are substituted for the proper muscular tissue. If the fatty degeneration exists to any extent the muscular walls present a yellowish color, and the heart is soft and flabby. This may be confined to one ventricle, or it may affect the inner layer of fibres, the outer layer remaining unchanged. Degeneration of the left ventricle occasions feebleness of the pulse. Difficulty in breathing is one symptom of this disease, especially when the right ventricle is affected. There is pallor, feeble circulation, cold extremities, and frequently dropsy.

Fatty degenerations is more liable to occur in corpulent persons, and between the ages of forty and fifty years.

Angina Pectoris, also termed *neuralgia of the heart*, might be included among the diseases of the nervous system, but as it is usually associated with a derangement in the action of the heart, it may be properly considered in this connection. The pain varies in intensity, sometimes being very acute, at others assuming a milder form. The action of the heart is more or less disturbed. The beats are irregular, at times being strong, while again they are feeble. A feeling of numbness is experienced in those parts to which the pain penetrates. These paroxysms *usually* continue but a few minutes, although they sometimes last several hours. Persons suffering from angina pectoris are liable to sudden death. It is connected with ossification, or other organic changes of the heart. Usually these paroxysms, if the life of the patient continues, become more and more frequent. The danger is not to be measured by the intensity of the pain, but by the co-existing organic disease. Although it is not absolutely certain that organic disease is present in all cases of angina pectoris, yet the exceptions are so rare that when the signs of organic disease cannot be detected, it may be inferred that angina is not the real affection, or that the existing lesions escape observation. Those who suffer from this disease are, in the great majority of cases, of the male sex, and rarely under the age of forty.

Treatment. In the foregoing consideration of organic diseases of the heart, we have omitted to speak of their remedial management, for the obvious reason that unprofessional readers are unable to correctly distinguish between the various diseases of this vital organ; and it would, therefore, be useless for us to attempt to instruct them as to the medicinal treatment of the different cardiac affections.

In the vast majority of instances, diseases of the heart are not necessarily speedily fatal. Persons have been known to live twenty years or more with very extensive organic disease of this organ.

It is *very important*, however, that a correct diagnosis be made in the early stages of these diseases, in order that an appropriate course of hygiene and treatment may be adopted, which will check their progress. While we cannot cure extensive organic diseases of the heart, we *can* check their progress, and prolong life, and render the condition of the subject comparatively comfortable. Since we are able to diagnose with the utmost precision the various affections of the heart, and since the discovery of certain specific medicines which exert most beneficial effects, we are enabled to treat this class of maladies with the most gratifying results. Many cases of Angina Pectoris are thought to be indigestion, as relief is felt when gas is eructed. The use of nitro-glycerin, a small tablet of 1-100 grain placed under the tongue gives relief. In some cases fifteen or twenty drops of laudanum give relief, if the patient lies down and covers up warmly. An enema of

quite warm water injected into the bowel, and thereafter taken every morning or during the attack, will be found very beneficial to keep the bowels free. As the attack recurs almost invariably, the patient should always have the remedies at hand, or on the person. Avoid overeating and all excessive exertion or hard work. Keep warm, and indulge only in gentle exercises. Always keep the bowels loose. Dr. Pierce's Golden Medical Discovery which contains Collinsonia, is an excellent herbal tonic, and this, together with the use of Dr. Pierce's Pleasant Pellets to regulate the bowels, will aid in preventing a return of the attacks.

One afflicted with heart disease should abstain from the use of all kinds of stimulants, tobacco, and whatever tends to lower vitality. His life should be an even one, free from all excitement of any kind whatever. He should avoid severe physical exertion, and everything which causes the heart to beat with undue frequency.

SORE MOUTH (STOMATITIS).

Stomatitis, or inflammation of the mucous membrane of the mouth, may include the entire surface of the gums, tongue, and cheeks, or appear only in spots. Vesicles are formed, having swollen edges and a white or yellow center, which finally ulcerate. When mild, the affection is confined to these parts.

If the inflammation is acute, the mouth is dry and parched, or as is more frequently the case, the flow of saliva is abundant and acrid, and, when swallowed, irritates the stomach and bowels, producing fever, diarrhea, griping pains, and flatulency. The tongue is either coated white or red, and is glossy, and the sense of taste is considerably impaired. Digestion and nutrition are then disturbed, and the patient becomes rapidly emaciated.

Thrush, or Canker, is that form of stomatitis in which white ulcers locate on the inner side of the upper lip, the tongue, or roof of the mouth; the irritation which they cause not only interferes with eating, but produces fever, together with the symptoms previously mentioned.

Aphæ, or follicular inflammation, is distinguished by very painful little ulcers, single or in clusters, scattered over the surface of the tongue and lining of the mouth. Sometimes it is complicated with little lumps in the tongue. These form ulcers and denote scrofulous inflammation. Fissures and cracks in the tongue indicate derangement of the stomach.

The Causes of stomatitis, in nursing infants, are unhealthy milk, or effete matter, which, for lack of proper care and cleanliness, accumulates upon the nipple. In older children, improper diet, irritants, debility of the digestive functions, or hereditary syphilitic taint, disorder the blood and induce local inflammation.

Treatment. Locally, use a wash of golden seal or gold thread sweetened with maple-sugar, and rendered slightly alkaline with borax or saleratus. Also use a very weak, alkaline tea, or one of slippery-

elm flour, to obviate the acidity of the secretions. If the sores do not heal, constitutional treatment may be required, as the use of the Golden Medical Discovery. The family physician should be consulted if the sore mouth resists all these remedial measures.

NURSING SORE MOUTH. (STOMATITIS MATERNA.)

During the period of nursing, and sometimes in the latter months of pregnancy, women are liable to a peculiar variety of sore mouth. The soreness is sometimes so great that, although the appetite may be ravenous, the patient cannot eat. When this condition extends to the stomach and bowels, symptoms of a very grave character appear, and the disease, by interfering with the process of nutrition, causes emaciation and debility, and in extreme cases, death. It is a strange affection, nearly always disappearing upon weaning the child, though this course is not absolutely necessary. It appears to depend upon a hepatic, or gastric derangement, in connection with a vitiated condition of the blood, but how this is brought about is unknown.

Symptoms. The disease sometimes comes on suddenly, at others more slowly. The fact that the woman is either pregnant or nursing, is of importance in forming a diagnosis. At first there is a severe, scalding sensation of the tongue, mouth, and fauces, with pain, which is sometimes intense. The color of the tongue is often pink, or a light red, while the mouth is generally of a deeper hue. This stinging, biting sensation is accompanied by a profuse, watery discharge from the mouth, which seems extremely hot and acrid, causing excoriation whenever it comes in contact with the face or chin. The appetite is good, sometimes ravenous, but food or drinks, except of the blandest character, occasion such intense pain that the patient avoids their use. Ulceration occurs after a little time. The bowels are generally constipated, but when the disease extends to the stomach or intestines, diarrhea occurs. There is generally anæmia, debility, and impairment of the vital powers.

Treatment. The indications for treatment in this affection are to overcome the vitiated condition of the blood, and to sustain the vital powers. The remedies for this purpose are alteratives, antiseptics, and tonics. Give the Golden Medical Discovery, the value of which may be greatly enhanced by adding one-half ounce of the fluid extract of baptisia to each bottle, in doses of a teaspoonful four times a day. Chlorate of potash, half an ounce in a pint of water, used as a wash and gargle, is of great value. A teaspoonful of the same may be swallowed several times a day. This will not interfere with other medicines. As a tonic, the tincture of the muriate of iron, in five to ten-drop doses, diluted with water, may be taken three or four times daily. Quinine, in one or two-grain doses, should be given with the iron if the debility be extreme. When there is great acidity of the stomach, which may be known by heart-burn, saleratus may be taken in water, to neutralize it,

but should not be drunk within an hour of the time for taking other medicines. If constipation exists, use the Pleasant Pellets. This course of treatment, thoroughly carried out, will seldom fail to effect a perfect cure, without weaning the child, yet this latter course may sometimes become advisable to promote the recovery of the patient. Should the treatment advised not produce the desired result, a skillful physician's services should be secured, as he may, in individual cases, distinguish other important indications which may enable him to modify the treatment to advantage.

DIARRHEA, CHOLERA INFANTUM, OR SUMMER COMPLAINT, AND DYSENTERY.

These diseases are usually considered separately by medical writers, but, as they are closely related, a simple diarrhea not unfrequently running into a *cholera infantum* or a dysentery, we shall consider them together.

Diarrhea is an affection characterized by unnaturally frequent evacuations from the bowels of a liquid of morbidly soft consistency. It may be simple or inflammatory, and acute or chronic.

A diarrhea is said to be bilious when the discharges are composed principally of serum, highly colored with yellow or green bile; catarrhal, when they are of a semi-transparent, mucous character; serous, when the dejections are thin and watery, sometimes mixed with blood, bile, or ingesta.

The symptoms of the affection are usually at first those of indigestion, a fullness of the stomach, flatulency, and colicky pains. The pains, which precede each evacuation, are intermittent in character. There may be an unpleasant sinking sensation in the abdomen, and, with the discharge, exhaustion, a feeble pulse, and a cool skin. In the inflammatory variety, there is more or less fever.

Cholera Infantum, or summer complaint, is a disease peculiar to the warm season, and more prevalent in cities, and among those children who do not nurse at the breast. It is characterized by great irritability of the stomach, and persistent vomiting and purging, the discharges from the bowels being copious and watery, and sometimes containing specks of curd, yellowish-green matter, and mucus. The limbs of the little sufferer are usually drawn up, indicating pain in the bowels, and there is great prostration with cold extremities. The invasion may be so sudden, and the disease so violent as to destroy life in a few hours.

Dysentery, also known as *bloody-flux*, consists of an inflammation of the mucous membrane of the large intestine, with ulceration of the affected surfaces. The disease is accompanied with much nervous prostration, and is distinguished by severe pains in the abdomen of a griping nature, followed by frequent scanty and bloody stools, and

much straining. Occasionally the attack is ushered in with a chill and aching pains in various parts of the body, with copious fecal dejections. In other cases the attack is preceded by loss of appetite, a sense of uneasiness with dull pains in the abdomen, and weariness. The disease, like diarrhea, may be either acute or chronic.

The Causes of these affections of the bowels are many and varied. They may be brought on by exposure to cold and wet or by improper and indigestible articles of food, such as unripe fruits, salads, pastries, and, in fact, anything which interferes with the normal operations of the digestive apparatus. One of the most fertile sources of diarrhea in infants, and of *cholera infantum*, is the administration of unsuitable food, the ill effects of which are greatly increased by exposure to heat or cold. Uncleanliness, and the inhalation of impure air, are prolific causes of these diseases. Epidemics have been supposed to be due to some peculiarity in the condition of the atmosphere, or to some impalpable germ of a vegetable or animal nature.

Treatment. In the treatment of these diseases, one should first endeavor to ascertain the cause of the trouble, and then, if possible, effect its removal. Attention should be given to the hygienic surroundings of the individual afflicted; if he reside in a miasmatic district, or in a location in which the atmosphere is contaminated by the decomposition of animal or vegetable matter, or filled with noxious gases, his abode should be changed. A pure, dry air is most beneficial in these cases.

Only the least irritating and most easily digestible articles of food should be taken. Healthy cow's milk is slightly alkaline, but that of cows fed on slops is usually acid, and unfit for infants. It is, therefore, well to test all milk with blue litmus paper before feeding it to young children. If found to be strongly acid, that is if it turns the paper red, it should be rejected, but if only slightly so, sufficient lime water may be added to render it slightly alkaline. For adults and older children, the diet should consist of such starchy foods as arrow-root, sago, corn starch, and rice, and of ripe grapes, freed from the skins and seeds, peaches, and boiled milk, or milk and lime water. In some cases the animal broths are beneficial, especially mutton broth. To quench the thirst, crust coffee, rice coffee, and lemonade, in small quantities, may be taken.

Rest is important in these diseases. In severe cases, the patient should be kept in bed.

At the onset of an attack of diarrhea or dysentery, if there be reason to believe that the intestinal tract contains irritating matter, a dose of castor oil, with a few drops of anise oil added to render it palatable, should be administered. After all irritating ingesta have been removed.

A physician should be called to inject Emetine hypodermically. This has been found to have a specific effect on dysentery,

chronic diarrhœa, and many cases of cholera morbus. It allays irritation and inflammation of the affected mucous surfaces, and soothes the nervous system. In the great majority of cases, the above course of treatment will be found sufficient, but in the more severe forms of these diseases additional remedies may be required.

In dysentery, accompanied with severe pain and straining, injections of starch water and laudanum, from two to four ounces of the former to from twenty to fifty drops of the latter should be used, also Emetine.

Hot fomentations applied to the abdomen are beneficial. If the discharges contain much blood, a flannel cloth moistened with the spirits of turpentine should be laid over the lower part of the abdomen, and kept there until slight irritation is produced.

Lime water, bicarbonate of soda, bicarbonate of potash (saleratus), chalk, and the subnitrate of bismuth are valuable agents to correct the secretions, and allay irritation of the diseased mucous surface. The above-named preparations of soda, potash, and bismuth may be taken in doses of from five to twenty grains every few hours.

Blackberry root and cranesbill (*Geranium Maculatum*), in the form of fluid extract or infusion, are beneficial in acute cases in which the discharges are profuse and watery, and in the chronic forms of these affections.

In *cholera infantum* a physician should be called. Subnitrate of bismuth should be given in doses of from five to ten grains at intervals of from two to four hours. If the discharges are very profuse, the fluid extract of cranesbill may be administered in from two to ten-drop doses alternately with the bismuth. The camphorated tincture of opium (paregoric) is required in doses of from two to twenty drops, depending upon the age of the child and the severity of the case, if there is much pain, but great caution should be exercised in administering the preparations of opium to children. A single drop of laudanum given to a young infant has caused convulsions, coma, and death in more than one instance. To check the vomiting of *cholera infantum*, mild irritation over the stomach is sometimes effectual. For this purpose a weak mustard plaster, or a cloth moistened with turpentine, may be laid over the stomach for a few minutes at a time. If the child is old enough to suck pellets of ice, these are beneficial, or a piece can be wrapped in a cloth and sucked.

COLIC.

Colic is a term applied to griping pains in the abdomen, which are sometimes accompanied with nausea and vomiting. The derangement is recognized in several forms, some of which we shall briefly describe.

Bilious Colic. This may be the result of a morbid condition of the liver.

Symptoms. It is characterized by severe pain occurring in paroxysms, which may be relieved by pressure upon the bowels. The pulse is quick, the tongue coated, and the skin harsh and dry; there is headache, impaired appetite, acrid taste in the mouth, thirst, nausea, attended with vomiting and general chilliness, followed by febrile symptoms.

Cause. It may be induced by exposure to cold, in consequence of which the circulation is impeded, the pores of the skin obstructed, and all of the vitiated matters having to be expelled through the liver, stomach, and intestines. It may also be due to malaria. It most commonly occurs during the autumn, after a season of hot weather.

Flatulent Colic. Flatulent or "wind" colic is one of the results of indigestion.

Symptoms. A sense of fullness in the pit of the stomach, attended with pain, which is transferred from one part of the bowels to another. There is fever, a quick pulse, nausea, and the presence of gas; by the latter feature it may be detected from the other forms.

Causes. Cold or atmospheric changes, the eating of unripe fruits, uncooked vegetables and those articles of diet which ferment easily, are the principle causes.

Painter's Colic. This form is also known by various names, such as *colica pictonum*, *saturnine*, or *lead colic*. Those persons who are engaged in the manufacture of lead, and painters, are the most frequent victims of this affection.

Symptoms. Impaired appetite, fetid breath, thickly coated tongue, obstinate constipation, a dry skin, scanty urine, languor, severe pain in the umbilical region, and general derangement of the functions of the system.

Causes. From the term applied to this form, the cause may be inferred. It is induced by the absorption of lead through the lungs, stomach, and skin.

Treatment. The indication to be fulfilled in *bilious colic* is to relieve the intestinal spasm. This may be done by drinking freely of a decoction of yam-root, or *dioscorea villosa*, which is an effectual remedy in this affection. If this be not at hand, the spasm may be relieved by administering freely of Dr. Pierce's Extract of Smart-weed. If the stomach be irritable, a tablespoonful of laudanum and one of tincture of lobelia, in four ounces of starch water, administered as an injection, is effectual. If simple means do not promptly arrest the attack, no time should be lost in summoning the family physician.

In *flatulent colic*, the treatment should depend upon the cause. If it be occasioned by cold, a teaspoonful or two of the Extract of Smart-weed, in warm water or catnip tea, repeated a few times, will be sufficient. If it results from overloading the stomach, a dose of the Pleasant Pellets will answer the purpose. If the pain in the abdomen is severe, apply hot fomentations. Assist the action of physic, by giving an in-

jection of senna and catnip tea, or if the stomach is very sour, take internally some mild alkali, such as common saleratus.

In *painters'* colic, the following cathartic mixture is an effectual remedy: sulphate of magnesia (epsom salts), twelve ounces; nitrate of potassa (saltpeter), half an ounce; sulphuric acid, one drachm; boiling water, one quart. Of this remedy give a teaspoonful every thirty minutes or every hour until the bowels move. An injection of some diaphoretic tea, or of alum water, is a good remedy. Castor oil and molasses, containing a teaspoonful of spirits of turpentine, will add to the efficiency of an injection. If the colic be not promptly relieved, a physician should be employed. To eliminate the lead from the system, and thus prevent a return of the colic, or other injurious effects, two drachms of iodide of potassium should be added to a bottle of the Golden Medical Discovery, and a teaspoonful of this taken four times a day.

JAUNDICE. (ICTERUS.)

This affection is generally regarded as a symptom of disordered liver, since it frequently occurs during the progress of diseases of that organ. When the disease imparts a greenish tinge to the skin, it is termed *green jaundice*, and, when it imparts a blackish color, it is known as *black jaundice*. Jaundice is undoubtedly due to the presence of biliary elements in the blood.

In Japan the disease is characterized by very high mortality (from 30 to 50 per cent.), a mortality vastly in excess of that recorded in any other part of the world. In fact elsewhere the mortality has been very low. In Japan a spirochæta has been found quite constantly present in the cases and the same organism has also been discovered in rats, while an organism apparently identical with the Japanese spirochæta has been discovered in wild rats both in France and the United States.

Symptoms. It is characterized by a yellowish color of the skin and of the white of the eyes. The skin is usually dry and harsh; if it be moist, the linen will be tinged yellow from the perspiration. The tongue is coated yellow, the mouth is dry, and the appetite impaired; there is headache, nausea, and sometimes vomiting; there is pain in the abdomen after eating, and in the region of the liver, and it is also felt in the right shoulder, and between the shoulder-blades. In severe cases, there is fever, accompanied with chills, despondency and loss of flesh. The stools are generally of a light clay color, and very offensive; the urine is thick and yellow. When the disease terminates fatally, there is delirium followed by stupor.

Treatment. The first step should be to eliminate from the system, as speedily as possible, all noxious materials. For this purpose, the spirit-vapor bath can be used. If the urine is scanty or voided with difficulty, take acetate of potash or queen of the meadow. These may be taken in connection with the Golden Medical Discovery and Purga-

tive Pellets, the efficacy of which has already been described in the treatment of chronic inflammation of the liver. They are indeed valuable agents in this disease, since they increase the action of all the excretory glands, and rapidly remove those matters, which, if retained, would poison the system.

In some cases, acids are of great value; good hard cider or hydrochloric acid and the acid bath are frequently valuable agents.

In other cases the employment, both internally and externally, of alkalies in addition to the Golden Medical Discovery answers the purpose much better.

Again, there are persons who, in addition to alteratives and baths, require tonics. In the treatment for this affection, whatever may be the nature of the case, the use of *alteratives* must not be forgotten, for *without* them, the auxiliary treatment with acids, alkalies, and tonics, will not produce the desired effect.

The employment of drastic remedies is sometimes resorted to; but, although they may give temporary relief, the patient soon relapses into his former condition, while if the treatment above given be adopted, the recovery will be permanent.

GALL-STONES. (BILIARY CALCULI.)

These are concretions found in the gall-bladder or bile duct, and vary from the size of a pea to that of a hen's egg. There may be no indication of their existence in the gall-bladder until they begin to pass through the duct.

Causes. The formation of gall-stones is undoubtedly due to an unhealthy condition of the bile. Corpulent persons, and those indulging in over-stimulating diet, or in the habitual use of fermented drinks, are most liable to be troubled by them.

Symptoms. The patient is suddenly seized with excruciating pain in the right side. After a time it subsides, but is again renewed with as great severity as before. There is nausea, with vomiting, which is often excessive and severe. The pulse is sometimes slower than is natural, the extremities are cold, there is great exhaustion, together with perspiration and spasmodic contraction of the abdominal muscles. As soon as one stone has passed through the duct into the intestine, immediate relief is experienced until another commences to pass, and the larger the concretion, the greater is the pain. If the stools be washed, the gall-stones may be seen floating on top of the water.

Treatment. This consists chiefly in relieving the patient of pain and vomiting during the passage of the gall-stones. Hot fomentations made with stramonium leaves and lobelia, and applied over the painful parts, are beneficial. Small doses of lobelia may be taken, but not in sufficient quantities to produce vomiting. Doses of opium can be given

by a physician, but morphine should never be taken without a physician's advice. Chloroform, ether, or the spirit vapor-bath generally allays the pain. Carbonate of soda, dissolved in water, often relieves the vomiting.

These distressing symptoms are apt to recur until the removal of all the gall-stones is effected. To aid in removing them, take the Golden Medical Discovery rather freely for a day or two, and continue its use with lobelia, in doses sufficiently large to produce nausea, but not vomiting. From four to eight ounces of sweet oil may be given, and, if the bowels do not respond within three hours, repeat the dose, and the gall-stone will generally be evacuated. To prevent the formation of these concretions take the Golden Medical Discovery, together with alkaline drinks made with carbonate of soda. Tone and energy will thereby be imparted to the liver, the free flow of bile will be insured and the subsequent formation of gall-stones prevented.

INTESTINAL WORMS.

We have not the space to discuss the numerous theories which have been offered to account for the presence of these parasites in the human body. We shall enumerate the principal species, describe the symptoms indicating their presence, and indicate the proper remedies.

There are five species of intestinal worms, sufficiently common to merit a description.

(1.) The round worm, termed by naturalists, *ascaris lumbricoides*, varies from six inches to a foot in length, and resembles the common earth-worm. It infests the small intestines and seldom migrates into the stomach or large bowel. Instances are recorded, however, in which it has crept upward in the esophagus, larynx, nostrils, and eustachian tube; but their presence in these parts is of comparatively rare occurrence, and is generally caused by some local irritation which compels their migration. The fact that they have been found in the peritoneal sac, gave rise to the opinion that they perforate the intestine; but careful observations have proved that they can only escape through openings made by ulcers.

This species has been found in adults, but is more common in children from three to twelve years of age. The number of this species existing in a human body is variable. Sometimes only two or three are found. At other times a hundred, and even twice that number, are voided in a few days.

(2.) The *ascaris vermicularis*, thread, pin, or seat-worm, is round, very slender, and about half an inch in length. The habitation of this species is the rectum, and they are often found matted together in the excrement. They are very active, even after ejection, and have been known to cause great local irritation by entering the vagina and urethra. Their presence is an occasional cause of masturbation. It

is impossible to estimate the number of these parasites that may exist in the human rectum. Great numbers, sometimes, are voided at a single evacuation.

(3.) The *iricocephalus dispar* is a third variety of the round worm, and is said to infest the bodies of almost every species of mammalia. As its name indicates, the upper portion of its body is slender, hair-like, and terminates at the lower extremity in a thick, spiral portion. It is from one to two inches in length, and is found attached by its head to the mucous membrane of the cæcum, and, in rare instances, in the colon and small intestine. They are rarely numerous.

Tæniæ or *tape-worms*, are hermaphrodites, of a flat, ribbon-like form, and are composed of numerous segments, each of which is provided with a complete set of generative organs, and contains ova for the production of thousands of individuals. Some authors have supposed that each segment, or joint, is a distinct individual, but the existence of one head for the whole precludes this theory. There are two species of *tæniæ* developed in the human intestine; the *tænia solium* and the *tænia lata*.

(4.) The *tænia solium* is the species commonly found in America and all the countries of Europe, except France, Russia, and Switzerland. In France, both species are found, but the *tænia lata* seems to be indigenous to Russia and Switzerland.

The *tænia solium* varies in length from four or five to thirty, thirty-five, or even forty feet. The head is hemispherical and armed with a double row of twenty or thirty hooklets. The genital organs are alternate and placed upon the outer edges of each segment. It inhabits the small intestine, and is usually solitary.

(5.) The *tænia lata*, or broad tape-worm, is distinguished by the greater breadth of its segments, and the location of the genital organs, which are found in the centre of each segment. Its small elongated head is unarmed, and has a longitudinal fissure on each side. It usually attains a greater length than the *tænia solium*.

Symptoms. The symptoms which the long worms occasion, are frequently somewhat obscure. Thirst, irregular appetite, colicky pains, excessive flow of saliva, enlargement of the abdomen, itching of the nose, pallor of the face, offensive breath, disturbed sleep, and grinding of the teeth, all are common symptoms. Occasionally, convulsions and other nervous affections are produced by the presence of the *ascaris lumbricoides*, but generally they produce less constitutional disturbance than the other varieties. The passage of this species of worms from the bowels, or their ejection from the stomach, is the only positive evidence of their presence. The *ascaris vermicularis*, thread, pin, or seat-worm, gives rise to most of the symptoms produced by the long worms, but in addition produces intense itching at the anus, and, not unfrequently, an eruption upon that part. The itching is particularly distressing at night. When the little sufferer is well covered, the

warmth occasioned by the bedclothes causes these little parasites to crawl out upon the anus, and produces such paroxysms of itching and pain as to cause the child to kick the covering off and lie naked. The persistent manifestations of a disposition to lie naked, should excite the parents' suspicions of seat-worms, and lead them to investigate all the symptoms. By examining the child's stools the worms may be found adhering to the feces, and they may also be seen on the anus. Thousands of children suffer untold agony from these little seat-worms, which are left unmolested to torment them, because the parents are unfamiliar with the meaning of the symptoms manifested, and therefore pay no heed to them. We have been thus particular in describing the symptoms indicating the presence of these pestiferous parasites, in order that they may be readily detected.

The symptoms produced by the tape-worm are dizziness, ringing in the ears, increased secretion of saliva, indigestion, ravenous appetite, sharp abdominal pains, and emaciation. The only positive sign of the presence of these parasites, is the passage of pieces of them in the feces. The nervous and other symptoms produced by the ordinary long worms are also caused by the tape-worm.

Causes. Careful observations have proved that there are certain causes which favor the generation or development of intestinal worms. Among others, we may mention fatty or farinaceous articles of food, gormandizing, constant exposure to a moist atmosphere, and sedentary habits.

It is now generally conceded that the development of tape-worms is due to the swallowing of an egg or germ-cell, which is contained in many kinds of animal food, and which the process of cooking has failed to destroy. People living near low marches, lakes, or the seacoast, are liable to *tenia*.

Treatment. The expulsion of the *ascaris lumbricoides* may be very easily and pleasantly effected. Santonin is an effectual remedy for this variety of worms. For a child three years old, take santonin, six grains; podophyllin, one grain; white sugar, thirty grains; mix, triturate, and divide into twelve powders, and give one every three or four hours, until they act upon the bowels; or take santonin, ten grains; white sugar, twenty grains; mix, triturate, and divide into ten powders, and give one every night at bedtime, and after giving two or three in this way, administer a mild cathartic. As santonin is almost entirely tasteless, if not combined with other medicines which are unpalatable, no difficulty will be experienced in administering it to children. By reference to the article on anthelmintics in this volume, other valuable vermifuges may be selected, and directions found for their employment.

In the removal of thread or pin-worms, anthelmintic medicines taken into the stomach are of little or no value. An injection of a strong solution of salt, is a very efficient remedy. (A teaspoonful of turpentine in half a pint of milk makes a good injection) Strong coffee has been

recommended as an injection. The anus should be well anointed with vaseline, lard, oil, or fresh butter, after each movement of the bowels. Whatever injection or remedy is used, it should be followed by the application of some ointment to the anus, otherwise they will continue to deposit their eggs about that orifice and multiply there.

Various remedies have been used to destroy tape-worms. Among others we may mention the old and time-honored remedy, which consists of thirty to sixty drops of the oil of turpentine, taken in two or three ounces of castor oil or some aromatic tincture.

A decoction made by boiling two or three ounces of freshly powdered pomegranate bark in a pint of water was used by the ancients, and is now highly recommended as a remedy.

Some American physicians have used an emulsion of pumpkin seeds with marked success.

Twenty or thirty grains of the extract of male fern, followed by a cathartic is highly recommended for the destruction and removal of *tæniæ*.

TRICHINA SPIRALIS.

In 1835, Owen discovered a peculiar parasite, which sometimes infests the human body, and is termed the *trichina spiralis*. The presence of these parasites has given rise to morbid conditions of the system, followed by the most serious results. They are developed in the alimentary canal, and then perforate its tissues and enter the muscles. Twelve trichinæ have been found in a section of human muscles only one-twelfth of an inch square and one-fifth of an inch in thickness.

The early symptoms of trichinæ are very uncertain, being the same as those of some other disease. The patient complains of severe pain in the abdomen and is troubled with diarrhea. When the trichinæ pass into the muscles, they occasion great suffering. There are sharp pains in the muscles, the perspiration is profuse, and the patient becomes exhausted.

Cause. Nearly every case of trichinæ, which has been brought to the notice of the profession, has been attributed to the eating of raw or improperly cooked pork. The parasites can only be detected with a microscope.

Treatment. The impossibility of removing the trichinæ after they have passed into the muscles is apparent; and, as yet, no special remedy has been recommended to remove them from the alimentary canal. The only safety lies in prevention. Hence raw or imperfectly cooked pork should never be eaten.

DYSPEPSIA.

It is generally conceded that a multitude of human ailments arise from *indigestion*, and in its various forms it taxes the skill of the physician to prescribe the proper remedies. It is undeniable that the closest intimacy exists between happiness and good digestion. A healthy digestion aids materially in making a cheerful disposition, and the "feast of reason and flow of soul" is due as much to the functional integrity of the stomach as to a strong and generous mental organization.

Dr. Johnson severely said: "*Every man is a rascal as soon as he is sick.*" We all know that a morbid condition irritates the individual and excites sarcastic and disagreeable remarks. And, likewise, an irritable temper and, suddenly aroused passions may not only turn and disturb the stomach, but even poison the secretions. Anxiety, excitability, fear, and irritability frequently cause the perversion of physiological processes.

The slightest functional disturbance of the stomach deranges, more or less, all the succeeding operations of digestion and tends to the vitiation and impairment of the delicate processes of nutrition. Dyspepsia may commence and proceed so insidiously as not to excite the suspicion of friends, although the patient generally desires active treatment, such as cathartics, emetics, and medicines to act upon the liver. When the disease becomes confirmed, it presents some of the following symptoms: Weight, uneasiness, and fullness in the region of the stomach, attended by impatience, irritability, sluggishness, anxiety, and melancholy; there is impairment of the appetite and taste, also sourness, flatulency, and, perhaps, frequent attacks of colic, loss of hope, courage, and energy; apathy, drowsiness, and frightful dreams are also symptoms common in the different stages of this disease. There are, furthermore, the accompanying symptoms of a coated tongue, bitter taste in the mouth, unpleasant eructations, scalding of the throat from regurgitation, offensive breath, sick headache, giddiness, disturbed sleep, sallow countenance, heart-burn, morbid craving after food, constant anxiety and apprehension, fancied impotency, and fickleness. The subjects of dyspepsia frequently imagine that they require medicines to act upon the liver, desire active treatment, are endlessly experimenting in diet, daily rehearse their symptoms, and are morbidly sensitive.

Causes. Overtasking the body or mind, overloading the stomach, the use of improper food, such as stale vegetables and meat, unripe fruits, indigestible articles, improperly prepared food, irregular meals, disorderly habits, the use of alcoholic stimulants, loss of sleep, masturbation, irritability of temper, anxiety, or grief may all give rise to indi-

gestion. If the functions performed by the skin are embarrassed by cold, tight clothing, or lack of cleanliness, the nutritive changes cannot properly take place throughout the body, and consequently the digestive functions are embarrassed, as the revolutions of a water-wheel are impeded by the backset of the water. When food is not thoroughly masticated, it is not properly mixed with saliva of the glands of the mouth, and is not prepared for digestion by the acids of the stomach.

Whatever diminishes the general strength, impairs the health, or encroaches upon the functions of life, also hinders the perfect solution of food and disturbs in a measure the function of digestion. Whatever diminishes the normal amount of the digestive secretions or perverts their quality, deteriorating their solvent properties, is a cause of dyspepsia. This should be borne in mind in selecting remedies.

Treatment. The hygienic treatment consists in the regulation of the daily habits, proper selection and preparation of the food, cultivation of cheerfulness, diversion of the mind, and cleanliness of person. We cannot give particular directions as to the kind of diet, as there are no established rules for guidance. Generally, a dyspeptic knows best, from experience, what articles of diet can be taken with the least injury. The directions applicable to the condition of one patient, are not suited to those of another. In dyspepsia, animal food is, as a rule, preferable. Foods rich in starchy matter often ferment and produce distress. Sometimes alkalies may be given with beneficial effect, when there seems to be an excess of acid in the gastric secretions.

In some cases, the digestive fluids are weak and fermentation results, giving rise to flatulency and belching. An antiseptic, which may be prepared by mixing a teaspoonful of hydrochloric acid with four ounces of water, of which a teaspoonful may be taken after each meal, will prove beneficial to check the fermentation and aid digestion. The addition of one or two drops of a mixture of one part of carbolic acid and six of glycerine, to the above solution of hydrochloric acid improves its antiseptic properties. Or, Dr. Pierce's Golden Medical Discovery will stop undue fermentation, and from its tonic and invigorating effect upon the lining membranes of the stomach will generally overcome the indigestion. Some people are afraid to take it, when suffering from indigestion, because it has a sweet taste. But the sweet is not saccharine, or sugar sweet, but an entirely different sweet principle which prevents fermentation instead of promoting it.

Acidity of the stomach and the attendant irritation may be allayed by the following mixture: Calcined magnesia, one drachm; refined sugar, one drachm; subnitrate of bismuth, one-half drachm; oil of cajeput, ten drops. The dose is half a teaspoonful an hour after every meal. Any dispensing druggist can put it up.

It is frequently difficult to prevent the patient from over-distending the stomach, and thus impairing the tone of the muscular coats and prolonging the process of digestion.

In consequence of debility, over-exertion, anxiety, or chronic inflammation of the stomach, there is not a proper secretion, in quantity or quality, of digestive solvents, and it matters not whether it be a deficiency of the fluids of the stomach, or of the intestines, or of the pancreas and liver, the result is indigestion. The question of what important agent is lacking, naturally presents itself to the physician. Is it *pepsin*, the active principle of the gastric juice, which converts proteids into peptone, that is wanting, or is there a deficiency of *pancreatin*? Of course the principle which is lacking should be supplied; but has the physician the remedial agents properly prepared, and ready for prescribing? The specialist, having more cases of dyspepsia to treat than the general practitioner, is more likely to have the latest and most approved remedies applicable to loss of appetite, indigestion, impoverished blood, imperfect assimilation, and all diseases arising from faulty nutrition. In ordinary practice, the physician's time is divided in his consideration of acute, chronic, surgical, and obstetrical cases; in fact, much of it is occupied in riding to reach his patients. His attention is continually diverted from one class of cases to another, effectually preventing investigation in any particular direction. His patronage does not warrant him in the outlay of time required for the investigation of particular diseases, and the expense necessary to obtain the latest and best remedial agents for their treatment. In the multiplicity of his cares and arduous duties by night and by day, obstinate chronic cases become an annoyance to him, and whenever he can be otherwise professionally employed, he avoids them, disliking to undertake their treatment.

With plenty of time for scientific investigation, ample facilities to meet the demands upon his skill, and each succeeding case presenting some new phase, the treatment becomes a matter of absorbing interest to the specialist, and each success inspires greater confidence. We not only use in the treatment of indigestion, solvent remedies, like pepsin, which act only upon proteids, but also other remedies of recent discovery, which exert a remarkable curative influence in diseases of the digestive organs.

The chemistry of digestion and of life is becoming better understood. Any of the free acids may serve to dissolve a precipitated phosphate; but it is only the investigating therapist and experienced practitioner who understands which of them is the *most* and which is the *least* efficacious. Alkalies may dissolve lithic deposits, but who, unless he be an experienced physician, can detect the fault of nutrition which leads to their formation, or rightly interpret the symptoms indicating it? These simple illustrations of the complications which attend dyspepsia, are mentioned merely to show that they must be anticipated and taken into account in the treatment.

The number of cases of dyspeptic invalids treated by the staff of the Invalids' Hotel and Surgical Institute within the past few years, is so large as scarcely to be credited by those unacquainted with the preva-

lence of this disease. For this reason we have taken unusual pains to investigate the causes of the disease, and have spared no expense to provide the most approved digestive solvents, and stomachic tonics, which invigorate the mucous membrane of the stomach, and materially assist in reducing the food to a liquid condition. Some of these, without being purgative, increase the activity of the liver, and stimulate the intestinal secretions, two very important indications which should be fulfilled by remedies which cause no real depression. The recent important discoveries made in obtaining the active principles from indigenous plants, has opened the way to the use of a few of the most important of these remedial agents, hitherto almost wholly unknown to the medical profession, and the encouraging results attending our practice have amply repaid us for the investigation and originality in our treatment.

A careful chemical and microscopical examination of the urine often discloses the actual morbid conditions which perpetuate this functional disease. Many cases of supposed indigestion in persons past forty years of age are due to Angina Pectoris. (See page 552.)

CHRONIC DIARRHEA.

On account of the frequency and importance of chronic diarrhea, we deem it worthy of special consideration. It is frequently the sequel of the acute form of the affection. The urgent and severe symptoms of acute diarrhea are often abated, but the disease is not completely cured. The bowels are left in an irritable condition, perhaps in a state of chronic ulceration, which perpetuates morbid discharges.

The most noticeable symptom is the tendency to frequent and unhealthy discharges from the intestines. The evacuated matter varies much in appearance and character in different cases. The precise location of the morbid conditions which give rise to the discharges, as well as to their extent, modifies the color, consistency, and ingredients of the stools. Most frequently they are dark colored and of very offensive odor. They are of a more liquid character than is natural, except when, as is sometimes the case, periods of constipation alternate with periods of unnatural looseness. Tormina, or griping, is usually present, but not so severe as in the acute affection. Tenesmus, or straining, often accompanies it. The appetite is impaired, there is general debility, and the patient is nervous and irritable. The complexion becomes sallow, the skin dry and rough, the tongue dark colored, and the body emaciated.

The affection may be the sequel of neglected or badly treated acute diarrhea, may arise from the injudicious use of powerful purgative medicines, may result from dissipation, unwholesome food, bad air, absence of light, long continued exposure to dampness and cold, overwork, and extreme mental anxiety. Sometimes it is associated with other diseases, such as Bright's disease of the kidneys, scurvy, or some of the various forms of scrofulous disease.

The more prominent symptoms are so apparent and so characteristic that the most unskilled may be able to decide whether the patient has chronic diarrhea; but to determine in what portion of the intestinal canal the affection is chiefly seated, to decide upon the extent of its ravages, to ascertain what peculiar shade or type the affection has taken on, to investigate its complications and modifications, to ferret out its producing or aggravating causes, and above all, to nicely and skillfully adjust remedies to meet the depraved conditions, is by no means an easy task, even for the educated and experienced physician. It should be borne in mind that this is a dangerous malady, and one which should not be trifled with or neglected. Its tendency is to corrode and destroy the bowels, a process which if unchecked, must sooner or latter result in death. There is little tendency to spontaneous recovery, nor is a removal of the exciting cause often followed by recovery. The disease becomes so firmly seated, and the powers of life so debilitated, that nature cannot rally.

Treatment. A warm, salt bath, several times a week, taken at bedtime, is beneficial. Flannel should be worn next to the skin, and the sleeping-room should be warm and well ventilated.

Dr. Pierce's Golden Medical Discovery has achieved great success in the treatment of chronic diarrhea. Its use should be persisted in for a considerable time to strengthen and tone up the bowels. To relieve the discharges, take Dr. Pierce's Smart-Weed, as needed from time to time.

CHRONIC INFLAMMATION OF THE LIVER.

(CHRONIC HEPATITIS.)

This is what is ordinarily termed *liver complaint*, *torpid liver*, and *bilious disorder*.

Under this head may be considered all those chronic affections known as congestion, induration, and enlargement of the liver, and which result in deficient action, functional derangement, morbid secretion of bile, and various chronic affections.

Symptoms. Owing to the liability of other organs to become diseased during the progress of chronic affections of the liver, great precision in diagnosis is required to determine, by the symptoms, the organ which is *primarily* diseased and those secondarily affected. This requires not only familiarity with the signs of a complicated disease, but also thorough anatomical knowledge of the diseased organ, of the morbid changes which occur in its structure, and their influence on its own functions, as well as on those of other organs.

The symptoms may differ according to the circumstances, temperament, sex, age, or constitution of the individual, and the complications of the disease. The local indications are fullness of the right side, thus denoting congestion of the liver; a dull, heavy pain, which is increased

by pressure or by lying on the left side; a sense of fullness, weight, and oppression about the stomach; an aching in the right shoulder-blade; a dull, disagreeable pain in the shoulder-joint, which may extend down the arm, and which is sometimes felt in the wrist and joints of the hand. Not unfrequently the complexion becomes pale and sallow, and there is puffiness under the eye, headache, a bitter taste in the mouth, tongue coated white or covered with a brown fur, and hardness of the gums; there is frequent sighing, a hacking cough, fever, restlessness, and loss of sleep; sometimes an unnatural, greasy appearance of the skin, at others, it is dry and harsh, has scaly or branny eruptions, pimples, dark blotches, and troublesome itching. The urine is frequently scanty and high-colored, but variable as to quantity and appearance; it often produces a scalding sensation when voided, and, if allowed to stand, deposits a sediment which sometimes contains albumen. The pulse is very slow, particularly when the elements of the bile are not eliminated from the blood. The pulsations of the heart are easily quickened, and palpitation is excited if the subject be low and anæmic. There is depression of spirits, and a decided tendency to be discouraged and despondent. The functional powers of the stomach are impaired; there is loss of appetite, or it becomes capricious; uneasiness is felt in the region of the stomach, oppression, sometimes nausea and water-brash, or there is indigestion, flatulency, and acid eructations; the bowels become irregular, usually constipated, and occasionally subject to obstinate diarrhea attended with colicky pains; the stools are of a light clay color, sometimes hard and dark, again thin and very offensive, and occasionally green or black. As the disease progresses, during the day the circulation is sluggish, the feet and hands are cold, but at night the pulse is accelerated, and a burning sensation is felt in the palms of the hands and the soles of the feet.

The foregoing symptoms are not all present in one case, nor are any two cases alike in every respect. They vary according to the organs most implicated in the hepatic derangement. Thus, when chronic inflammation of the liver is associated with *heart* disease, the subject may have palpitation, excessive or defective action of the heart, attended with more or less pain and shortness of breath. If the *lungs* be specially influenced, then, in addition to the ordinary hepatic symptoms, there may be a dry cough, asthma, hurried respiration, bronchitis, hoarseness, and pain in the chest. If the *stomach* be the sympathizing organ, the tongue is coated white or brown, there is nausea, loss of appetite, flatulency, acidity, dyspepsia, fullness, and oppression, amounting, sometimes, to pain in the stomach after taking food; the food ferments and gives rise to eructations and various other manifestations of disorder. If the *bowels* are morbidly influenced by this affection, there is constipation or diarrhea, griping pain, distension of the abdomen, piles, and pain just within the points of the hips, thus indicating irritation of the colon. If the *brain* or *nervous system* sensitively responds, there is

headache, dizziness, disturbed sleep, depression of spirits, peevishness, capriciousness, lack of energy, irritability, and congestive symptoms. When the *skin* is involved the surface is dry, harsh, and scaly, displaying dark "moth-spots," blotches, or numerous little sores, and the countenance has a dull, tawny look. If the *kidneys* be disturbed by it, there may be pain and a sensation of weight in the back, while the urine may be scanty and high-colored, or abundant, pale, and limpid, frequently charged with sedimentary products of disease, and voided with difficulty. If the *womb* be implicated in this chronic affection, the menstrual function may be deranged, and result in an excessive or a deficient monthly flow, and be followed by profuse leucorrhea.

The preceding allusion to the complications of chronic inflammation of the liver shows the necessity of clearly distinguishing between the symptoms of this disorder and those reflected by the organs which sympathetically respond. To discriminate more effectually, and place the correctness of the diagnosis beyond doubt, we make a chemical and microscopical examination of the urine, and thereby detect the morbid products which it contains, and direct our attention to the diseased organs furnishing them. These examinations together with a complete history of the case, enable us to make a correct and definite diagnosis of the disease, and the extent to which it has affected the other organs.

Before entering upon the consideration of treatment, let us briefly enumerate the functions of the liver: *First*, it removes matter, which, if allowed to remain in the blood, would become noxious and unfit it for the further support of the body. *Secondly*, by secreting bile, it furnishes to the digestive organs a fluid which assists in converting the food into chyle, stimulates the intestine to action, and then is itself transformed and absorbed with the chylous products, after which it circulates with the blood and assists in nutrition until, becoming injurious and pernicious, it is re-secreted and re-elaborated to serve again, as described.

For its growth and nourishment, the liver is furnished with blood by the hepatic artery; but for the purpose of secretion and depuration, it is abundantly supplied with venous blood by the portal system, which is made up of veins from the spleen, stomach, pancreas, and intestines. This impure, venous blood, surcharged with biliary elements, which must be withdrawn from it, is freely poured into the minute network of this glandular organ. In a healthy condition of the liver, the carbonaceous elements of the blood are converted into sugar, and the constituents of the bile are liberated by the liver, and set apart for further duties. When it fails to eliminate these noxious elements from the blood, it is itself thoroughly vitiated by them.

Treatment. Food must be rich in carbon in order that it may build up the tissues and keep the body warm, but carbonic acid, the result of the combustion, must be removed from the blood, or death will ensue. So bile is necessary to digestion, nutrition, and life; yet, if it be not

separated from the blood by the secreting action of the liver, it will as surely poison the system and destroy life as carbonic acid. Although the constituents of the bile exist in the blood, they must be removed in order that the blood may be rendered more fit to support the body, while the secreted bile is destined to assist in digestion, and the mysterious process of nutrition. Therefore, we should induce a secretion of bile, and restore the normal activity of the liver. This should be done, not by administering stimulants, but by relieving it of all contingent embarrassments as far as possible. Would any one think of giving to a weak, debilitated man large portions of brandy to enable him to work? Does not every one know that, when the unnatural stimulus is removed, he fails? Apply this principle in the treatment of the liver. When harsh, unnatural stimulants and "bile-driving" medicines are administered for a time and then withheld, the liver relapses into a more torpid and debilitated condition than before treatment was begun. Is not this true of nine-tenths of all who suffer from this malady, and have recourse to this class of remedies?

Then how can we remedially fulfill the preceding indications? We answer in the language of a distinguished author and standard medical writer, "by using a class of agents which should never be overlooked in the treatment of long-standing liver diseases, chiefly addressed to the blood and denominated '*alteratives*.'"

Alteratives, tonics, and restorative catalytics are required not only in diseases of the liver, but in a large number of ailments in which the blood becomes charged with morbid materials. The active remedial properties of the most efficient agents of the above classes of medicine now known, are scientifically combined in the "Golden Medical Discovery," which acts *especially* upon the blood, and hence influences the system generally. It is also powerful in eliminating those morbid humors which are afterwards subjected to excretion through various organs.

Its action is radically different from most medicines employed in chronic diseases, for the reason, that what is usually prescribed, is something corrosive. Unless the disease be temporary, it may return with increased violence.

We have been very minute in the description of the remedial properties of the "Golden Medical Discovery," and have relied upon the reason and intelligence of our patrons, believing that they can, in a degree, understand why we deem it so applicable to the system. It does not debilitate the liver by overstimulation, nor irritate the stomach and bowels by disturbing the delicate processes of digestion, neither does it act with severity upon the blood, but it operates so gently, insensibly, and yet with so much certainty, that it excites the surprise and admiration of the patient.

From the careful detail of its various properties, there is abundant reason for its favorable action upon all of the excretory organs, which

co-operate in the removal of morbid materials from the system. If, however, the bowels are unusually sluggish or obstinately constipated, it is advisable, in conjunction with the "Golden Medical Discovery," to use the "Pleasant Pellets," which are also powerfully alterative, besides being mild and unirritating in their operation. They are the natural assistants of the "Discovery," working harmoniously together. They should be taken in small doses, and their use perseveringly followed, until the bowels are properly regulated by the use of the "Discovery" alone.

It has been customary to resort to powerful drastic cathartics, followed by bitters prepared in dilute alcohol. The habit is unscientific, for it is well known that alcohol deranges the functions of the digestive organs and depraves the blood, besides creating a morbid appetite. It has been repeatedly demonstrated that the use of such bitters has led to a life of drunkenness, with all the woe and untold misery which attend it.

Medicines to be strictly remedial, should exert a tonic influence upon all the vital processes. Those organs which are contiguous to the liver, or connected by sympathy with it, should be assisted in the performance of their functions. Persons who are habitually subject to "bilious" attacks are pleased to find that the use of the "Discovery" and "Pellets" furnishes immunity from such onsets, and prevents their usual recurrence. Thus these remedies are *preventive* as well as *curative*.

What we have thus far recommended for the treatment of this chronic affection is within the reach of every family. Patients laboring under this disease, when complicated with other affections, require special consideration and treatment, and all such are counseled to employ only those physicians whose experience and success entitle them to confidence. Health is one of the greatest of blessings, and how to restore it when lost, is a question of vital importance.

Having successfully treated thousands of invalids who have suffered from this chronic affection, we possess abundant evidence of the curability of the disease, but we have only space to publish a few letters from persons who have been under our care, or who have used our medicines, purchased from druggists.

CONSTIPATION. (COSTIVENESS.)

Health depends very largely upon the regularity of the bowels. There should be proper alvine evacuations every day. There are few persons who have not suffered at some period of their lives from constipation of the bowels. Inattentive to the calls of nature, or a neglect to regularly attend to this important duty, sooner or later, produces disastrous results. Furthermore, it is essential to the comfort of every individual, for, when this function is not performed, there is derangement of the mental as well as of the bodily organs.

Constipation, or *costiveness*, as it is sometimes termed, is a functional derangement of the large intestine. This intestine is about five feet in length, and consists of the cæcum, colon, and rectum. It serves as a temporary reservoir for the excrementitious residue of alimentary matter, and for the effete materials excreted by the glands contained in its mucous coats. It is distinguished as the *large* intestine, because of its great size.

Habitual constipation produces many derangements, resulting from *sympathy*, *irritation*, or *mechanical obstruction*. By referring to Figure 4, the reader may observe the anatomical relations which the large intestine sustains to the other abdominal organs. The ascending colon arises in the cæcum (Fig. 4), at the lower part of the abdomen, and passes over the kidney on the right side, where it begins a circuitous route around the abdominal cavity, comes in contact with the inferior surface of the liver, proceeds behind and below the large curvature of the stomach, emerges on the left side, and passes downward in front of the left kidney, where it dips into the pelvic cavity, and ends in the rectum.

If fecal matters are retained until they are decomposed, great injury follows, since the fluid portions are absorbed, conveyed into the blood, and, of necessity, corrupt it with their impurities. In this way, constipation may be the source of general derangement, but *such* disorder is seldom attributed to the torpid state of this intestine. There is little doubt but that it thereby imposes a great tax upon the functions of the liver, and, frequently, the fault is attributed to that organ instead of the large intestine. Sometimes the blood becomes so charged with fecal matter that its odor can be detected in the breath of the subject.

An overloaded condition of the large intestine may cause inflammation of the liver or dropsy of the abdomen. When the colon is distended, it becomes a mechanical impediment to the free circulation of the blood in other organs, and causes congestion of the portal system, predisposing to chronic inflammation or cirrhosis of the liver. This latter is a structural affection, and may, in turn, give rise to abdominal dropsy. In a word, the accumulation of feces in the colon irritates both the large and small intestines, thus causing congestion of the bowels, liver, or stomach.

The protracted presence of feculent matter deadens the sensibility of the intestine, so that great stimulation is required to provoke it to action. The contents become dry, solid, knotty, and hard, and very difficult to evacuate. If drastic, irritating physic be taken, only *temporary* relief is afforded, and it must be repeatedly resorted to, and the dose increased, to obtain the desired effect.

Symptoms. One diagnostic symptom of a loaded state of the colon, is an abundant secretion of urine, as limpid as water. The direct symptoms relate to the hardness of the feces and the great difficulty of voiding them. The influence of constipation upon the functions of the

liver, is indicated by the sympathy displayed between that organ and the mind. The patient manifests apprehension, mental depression, taciturnity, and melancholy, all indicative of hypochondriac dejection, induced by constipation.

We have treated patients, who, from this cause, had renounced their bright hopes, lost their buoyant spirits, and, becoming subject to superstitious fears, had given themselves up, night and day, to devotions and penance. It often happens that the victims of this deep dejection and morbid feeling of self-abasement, are persons not only of good moral character, but of high religious attainments, and their painful exhibitions of fear, distrust, and gloom, originate in *physical* rather than in spiritual causes. It is interesting to witness this strange perversion of the imagination, this morbid debasement of the religious faculties, and dejection of mind, due to causes disturbing the functions of the liver and other vital organs.

Young girls, as they approach the age of puberty, seem possessed with the idea that the unfrequent action of the bowels is a desirable habit. They do not associate with the duty a proper regard for health, but consider it as an inelegant and repugnant practice. The consequence is, that at this susceptible period, constipation, induced by neglect, arouses a latent hepatic or pulmonary disease which has been lurking in the system.

How many girls illustrate the truth of this statement by their complaints of dizziness, throbbing pain in the forehead and temples, flushing of the face, transient flushes of heat over the body, while at the same time the extremities are cold. At other times, they manifest the evils of such a course by their stupor, drowsiness, and deep sleep, although upon arising in the morning, they are still tired and unrefreshed.

The constipated condition of the bowels, often leads to congestion of the uterus and leucorrhœa, followed by uterine debility, prolapsus, excessive menstruation, anteversion or retroversion of that organ. The infrequency of the habit, incorrectly supposed to be desirable by a young woman, becomes nearly, if not quite disastrous to all her desires and bright prospects. Complications arise, and neither the inexperienced girl nor her solicitous and afflicted parents know where to look for remedial aid. If they seek an asylum from these sufferings, they find many private institutions, where flattering expectations of speedy recovery are aroused. At such institutions, these uterine disorders are generally treated merely as local diseases, while the causes are overlooked, and, consequently, a permanent cure is not effected. Having spent nearly all the money at her command, the patient returns home utterly disheartened. After such failures, many of these unfortunate individuals have applied to us and received treatment, and by persistently following our directions, have in due time been restored to health, amid all the comforts of home, and among friends, who rejoiced with

them in the unexpectedly favorable turn of affairs, accomplished at a comparatively trifling expense.

We have seen infants, and also young children, in whom constipation was obstinate. It therefore seems that it is often hereditary. In some persons, this affection continues from childhood, with but little variation, until bleeding pile tumors are developed. Habitual constipation of the bowels for a long period of years will generate a class of diseases, which are often very serious in their results.

Causes. We have already alluded to a sense of false modesty which prevents a response to the calls of nature, and we may mention other reasons, equally trifling, which deter many from fulfilling its demands. Some are in the habit of temporarily postponing their visits to the water closet, until, when they do go, they find themselves unable to evacuate the bowels. Sometimes the closet is a damp, uncomfortable out-house, situated at a distance from the dwelling, or the access is too public, and, hence, there is an unwillingness to visit it at the proper time. Some appear to be too indolent to attend to this duty. Others are too energetic, and think they cannot take the time, until they have finished some self-imposed task or attended to a pressing engagement.

Inactive life and sedentary occupations are also causes of constipation. Active exercise promotes all the bodily functions, and helps to regulate the bowels. Those who are engaged in literary pursuits, find that mental occupation determines the blood to the brain, thus drawing it from the extremities; the temperature falls below the natural standard, and there is almost invariably congestion of the bowels. The inmates of boarding-schools, factory girls, seamstresses, milliners, employes in manufacturing establishments, and all who sit and toil almost unremittingly, do not get sufficient exercise of all the muscles of the body, and are often troubled with obstinate constipation.

Food prepared according to the modern modes of cookery, is one of the causes which favors the developement of this derangement. People live too exclusively upon bolted wheat flour. The branny portion of a kernel of wheat consists of various nutritive elements, with more than five times the amount of phosphate of lime contained in fine bolted flour. Those who daily use boiled cracked wheat are not troubled by constipation. There is no dryness or hardness of the feces, and the bowels are evacuated without discomfort.

Treatment. Prevention is always better than cure; hence, a few hygienic directions may not be amiss. Do not disregard the intimations of nature, but promptly respond to her calls. If there is constipation, overcome it by establishing the habit of making daily efforts to effect a movement of the bowels. Taking regular exercise by walking, and lightly percussing or kneading the bowels for five minutes daily, help to increase their activity. The habit of early rising favors the natural action of the bowels. Drinking a glass of water on rising exerts a

beneficial influence. The food should be such as will excite the mucous secretion of the large intestines, and arouse its muscles to action. For this purpose, there is no one article that excels coarsely-cracked boiled wheat. Graham bread, mush, cakes, gems, and all articles of diet made from unbolted wheat flour are valuable auxiliaries, and may be prepared to suit the taste. Take the meals at stated hours; be punctual in attendance, regular in eating, and thoroughly masticate your food. Irregularity in the intervals between eating, disturbs the functions of the intestine. The use of ripe fruits, such as apples, pears, grapes, figs, and prunes, in proper quantities, is sometimes very beneficial. Trivial or unimportant as these hygienic suggestions may appear, yet were they observed, constipation, as well as most of the diseases incident to it, would be obviated. A large proportion of the cases will yield to the foregoing hygienic treatment without the employment of medicines. Should it be necessary, however, to employ an aperient to relieve the constipation, Dr. Pierce's Golden Medical Discovery will act most congenially, and will be followed by no constipating reaction, which invariably occurs when drastic cathartics are employed. Its operation is mild, bringing about a healthy action by promoting the biliary and other secretions, thus aiding nature in establishing normal functional activity in the bowels. Recourse should be had to it before employing any thing more strongly cathartic. However, should it prove too mild in its aperient effects, small doses of Dr. Pierce's Pleasant Pellets may be employed daily to assist it. Unlike other cathartics, they produce a secondary tonic effect upon the bowels, which renders their influence more lasting than that of other purgatives. We cannot too strongly discourage the injurious custom which many people have of frequently *scouring* out their bowels with strong cathartics. It is a bad practice, and cannot fail to do injury. The greatest benefit is derived, not from cathartic doses, but from taking only one or two of the "Pellets" per day, or enough to keep the bowels regular, and continuing their use for several weeks, in connection with the "Discovery," strictly carrying out the hygienic treatment heretofore advised.

The medical treatment of individual cases sometimes involves many considerations relative to the particular circumstances and complications presented. The peculiar susceptibility of the constitution, as well as the diseases incident to constipation, must be taken into account. Symptomatic derangement should not be treated as primary, although it is by inexperienced physicians. If the patient be afflicted with uterine disease, piles, nervous affections, falling of the lower bowel, or fistula, they should be treated in connection with this disease. For these reasons, we would advise our readers to submit all complicated cases, or those that do not yield to the course heretofore advised, to a physician of large experience in the management of chronic diseases, and not assume the great responsibility and the dire consequences which are very liable to arise from the improper treatment of such cases.

PILES. (HEMORRHOIDS.)

There are few maladies more common than this, and few which are more annoying. Piles consist of tumors formed within the rectum and about the anus, by dilatation of the hemorrhoidal veins and thickening of their walls. Sometimes, when attended by considerable inflammation, or when the attacks are very frequent, there is thickening of the adjacent cellular and mucous tissues.

There are two general forms of this disease, the external or blind piles, in which the tumors are outside the anus, and the internal or bleeding piles, in which the tumors are formed within the sphincters, although after their formation they may protrude. The external piles are commonly made up of thick tissues; upon one side, the skin forms the covering, while on the inner surface is the mucous membrane of the bowel. It is this surface which is most tender and irritable and liable to inflammation. The internal form of the disease is situated from a half an inch to two and a half inches above the sphincter muscle of the anus. The tumors are usually round, oval or cylindrical in form. They may be scattered over the surface of the bowel, or clustered together. The illustrations (Figs. 3 and 4) show the two forms of the disease. The two protruding tumors in Fig. 4, illustrate the usual form of prolapsing internal piles, whilst the one highest up in the bowel shows the form most commonly met with. It is seldom that one pile tumor is found alone, there usually being two or three, and sometimes as many as five or six, in a

Fig. 3.



Swollen External Piles.

cluster. Fig. 5 shows the manner of distribution of the veins in the rectal region. The small venous loops, or bulb-like terminations of the veins *H. i.*, are the points at which the piles most frequently occur.

Causes. Whatever tends to favor an undue accumulation of blood in the hemorrhoidal veins predisposes to piles. For this reason the affection is frequently a result of diseases of the heart and liver, which cause an obstruction in the circulation of the blood through the portal vein. Mechanical pressure from tumors in the abdomen, pregnancy, or an enlarged or displaced uterus, is not infrequently a cause of the disease, by keeping the hemorrhoidal veins over-distended. Those diseases which provoke much straining, as stricture, inflammation or enlargement of the prostate gland, or stone in the bladder are also active causative agents. The most common cause of all, however, is constipation; and persons of indolent, sedentary and luxurious habits of life are the ones most frequently affected with this derangement. The following are also prolific causes of piles, viz.: Pelvic tumors,

violent horseback exercise, indigestion, pregnancy, habitual use of drastic cathartics, diarrhea, dysentery, sitting on heated cushions, long-continued standing posture, diseases of the liver, worms, the wearing of tight corsets, eating highly seasoned or indigestible food,

Fig. 4.



Piles: internal and protruding.

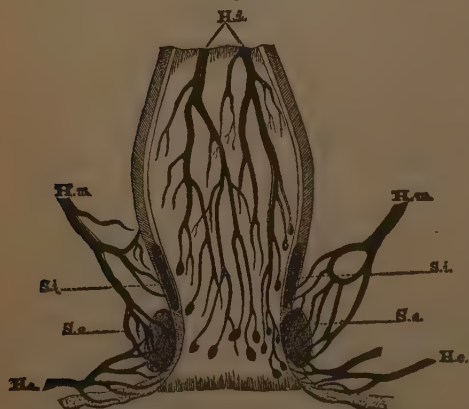
and the use of alcoholic stimulants. No age is exempt from piles, nor is the disease peculiar to either sex. Aside from the serious inconvenience and pain which are experienced with most forms of piles, there is a tendency to fistula, and to cancer in rectal region. It is important, therefore, that the disease should not be allowed to run on unchecked.

Symptoms. The most common symptoms at first are slight uneasiness, such as a little soreness or itching at the verge of the anus, and at times lancinating pains. These sensations are more severe as a rule if the bowels are constipated. If the piles are external they frequently become inflamed, swollen and painful, and in some instances they suppurate, which usually results in relief. When internal

piles have increased to any considerable extent, or have become inflamed, they produce not only itching at the extremity of the bowel, pain in the back, etc., but also a sensation of fullness in the rectum, as though some foreign body were present, and, on action of the bowels, there is a sensation as though a portion of the fæces had not been expelled. When the internal piles become large, they frequently come down with fæcal matter from the bowel, as illustrated in Fig. 4, and this prolapsus becomes more and more marked with the progress of the disease, until, in many cases, the tumors are forced down at each action of the bowels, causing excruciating pain until they are properly replaced. Usually, in the early stages, they recede spontaneously; however, after a time it becomes necessary for the sufferer to press them back, but in some instances this is impossible. Frequently during the protrusion one of the hemorrhoidal veins gives away, and this is followed by a free escape of blood, and ulceration may ensue. Not infrequently with this disease the patient loses strength and flesh, and the face becomes pale and puffy, assuming a waxy appearance. Many times there is nausea, with vertigo. In consequence of the relaxation, the bowel may descend when on the feet, or with some extra muscular effort, especially when stooping. These symptoms may not all be present in one person, and, indeed, sometimes are somewhat obscure; when such is the case, an examination by a competent physician will always determine the true character of the complaint at once.

Treatment. Notwithstanding the well established fact that piles are readily cured by appropriate treatment, hundreds of thousands of people suffer untold tortures from them because of the popular impression that they cannot be cured. All cases are not, however, amenable to the same form of treatment, for various unhealthy conditions of the system are often concerned in their production and perpetuation, and must, of necessity, be remedied by appropriate treatment, before a cure of the piles can be expected. It will, there-

Fig. 5.



H. i. Internal hemorrhoidal veins. H. m. Middle hemorrhoidal veins. H. e. External hemorrhoidal veins. S. i. Internal sphincter muscle. S. e. External sphincter muscle.

bladder, dysentery, diarrhea, and constipation,—all cause piles, by the irritation, and determination of blood, which they induce; these difficulties must be removed by appropriate treatment.

Some years since, we ascertained that we were using in our practice remedies which, in addition to other virtues, possessed a direct specific influence upon the vessels concerned in the formation of piles. These agents enter into the composition of Dr. Pierce's Golden Medical Discovery, which, consequently, will be found exceedingly efficacious in the treatment of this disease. This remedy, therefore, in removing the disease upon which the piles depend, as a congested or torpid liver, constipation, etc., and in exciting a direct curative control over the piles themselves, exerts a double influence. It may be aided, when the bowels are badly constipated, by the use of Dr. Pierce's Pleasant Pellets, taken in the morning, to secure a regular and easy evacuation of the bowels each day. All stimulating food and alcoholic drinks should be abstained from. The cold bath is beneficial in these cases, provided there is not great debility. The affected parts should be bathed frequently with cold water, and, if prolapsus exists, it is well

fore, become apparent that the avoidance of causes is of paramount importance. Some of these causes are external, and wholly under the control of the patient, while others depend upon diseases that are curable; it frequently happens that while other diseases are being remedied, the piles disappear without any special attention.

Diseases of the urinary apparatus, as stricture of the urethra, enlargement of the prostate gland, and stone in the

to inject a little cool water into the rectum, and allow it to remain a few minutes. As a soothing astringing and healing application to the affected parts we prepare Dr. Pierce's Anodyne Pile Ointment that has acquired great fame for the prompt relief which it affords in all ordinary cases. Sold by druggists or sent by mail, on receipt of price, 65 cents per box, postage prepaid. The persistent use of this Ointment, at the same time keeping the bowels regular by the use of "Golden Medical Discovery," with an occasional laxative dose of "Pleasant Pellets," will generally cure all ordinary cases of piles.

THE RADICAL CURE OF LARGE PILE TUMORS.

In cases in which the tumors have assumed large size and have become indurated, as a result of frequent protrusion, from the effects of straining at stool or other causes, it is impossible to effect a cure by the foregoing or any other medical treatment. Various methods have been in use by the profession, from time to time, for the relief of the most severe cases. The most common of these methods is excision with the knife or scissors.

Reference to the large vessels, shown in Figure 5, which are affected in this disease, will at once show the sufferer that there is an element of danger in this method, which should not be adopted except in the most severe cases, and, then, under the strictest anti-septic precautions in the hands only of surgeons skilled in the treatment of such diseases. In the sudden removal of these tumors, with which are connected one or more of the large hemorrhoidal veins, there is danger of severe hemorrhage occurring and in some cases ulceration follows which leads to disagreeable results. To avoid this danger it has been the practice of many physicians to apply caustics to the base of the tumors after their removal, or to cauterize with a hot iron or cautery. This method obviates to some extent the danger of hemorrhage, but is a very painful procedure, and one not to be recommended.

Formerly applications of nitric acid to the tumors were in common use by many physicians as a means of cure, but it was found that while this treatment would give temporary relief it was not universally successful, and in severe cases, as a rule, would not effect a cure. By what we term palliative treatment alone more cures are effected than by the old process of treatment with nitric acid.

Another form of treatment which consisted of strangulation of the piles, by means of a ligature, is a very painful method because as a result of cutting off the circulation the tumor swells and becomes severely inflamed before sloughing has had time to take place. We have seen strong men suffer intensely following this treatment. A treatment which has been highly recommended by some physicians, and condemned by others, is the process of absorbing the tumor by

the injection of carbolic acid. This method of treatment is not one to be recommended in tumors of large size, and one not now in general use.

A MORE SUCCESSFUL METHOD.

A method of treatment has been devised and thoroughly perfected in our Institution. All such danger and trouble as above described are avoided. This consists in the careful preparation of the patient by a thorough evacuation of the bowels after which the parts are thoroughly cleansed with antiseptic preparations, and the tumors brought down, and certain chemical preparations applied which cause the tumors to speedily shrivel up and entirely disappear within a short time. These treatments cause no pain whatever, for by first applying a weak solution of a local anaesthetic to the parts, they are speedily rendered entirely insensible so that the most sensitive, nervous person experiences no suffering from the application of our remedies. This is the only treatment required in the great majority of cases of internal hemorrhoids, requiring no general anaesthetic, and no serious suffering at any time, although there is after the treatment, at times, a certain amount of soreness, which, however, is easily borne. Occasional cases, more serious in their nature, with complications demanding other procedures are treated with equal safety and good results. Having now at our command means so positively certain in their action upon pile tumors, we do not hesitate to say that the very worst cases, no matter of how long standing, can be promptly cured, if we can only have the patient for a short time under our personal observation and care. Considering the very distressing character of this disease, it is a great boon that we have at last found safe, painless, and certain means of cure.

The news has been hailed with joy by a large class of sufferers. It seems to us that there is no longer any excuse for any one to endure the tortures inflicted by pile tumors, providing the afflicted one can command the time and moderate amount of means necessary to secure the treatment indicated. Piles are not only in and of themselves painful and annoying, but often greatly aggravate, and even cause, other grave and painful affections, and should therefore not be neglected. When large, they never get well without proper treatment. We have seen many cases in which a long train of perverse and distressing symptoms caused by piles led the sufferer, and even the family physician, to suppose that other diseases existed, but all of which annoying symptoms were speedily dispelled by the cure of the piles.

There is no doubt that neglected piles, fistula and other morbid conditions of the lower bowel frequently degenerate into cancerous disease. We have the eminent authority of J. Hughes Bennett, M. D., of Edinburg, and many other close observers, for saying that benign or ordinary tumors often degenerate into cancerous disease, and our

own extensive observation convinces us that this is not infrequently the result of neglected rectal disease, piles, fistulæ, fissures, ulcers, etc.

It is therefore important to give prompt attention and obtain skillful treatment for diseases of these parts. When the ordinary palliative treatment heretofore outlined, such as laxatives, ointments, regulation of the bowels, etc., does not completely and perfectly subdue the malady, it is best to lose no time in securing the most skillful treatment, that every vestige of the affection may be promptly removed. We have treated many thousand cases with uniform success and our patients write to us, expressing the greatest satisfaction, recommending our methods most highly.

The time necessary for an individual so afflicted to remain in the sanitarium varies from twenty to thirty days, depending upon the size of the hemorrhoids, and other existing complications. The treatment is quickly accomplished but it is best to have the individual under personal observation until every vestige of the disease has disappeared and a permanent cure established.

ANAL FISTULA. (FISTULA IN ANO.)

This disease is *more dangerous* than piles, though, after once formed, not so painful. It sometimes commences with intense itching about the anus, accompanied with a little discharge; or the first symptom may be a painful abscess, like a boil, which finally breaks. The soreness then in a measure subsides, leaving a fistulous opening, with a continuous discharge of matter. This unnatural opening, with its constant drain upon the system; sooner or later is certain to ruin the health or develop consumption or other maladies, and destroy life.

Fistula in Ano may exist in three conditions: First, complete fistula—when the opening is continuous from the cavity of the rectum or bowel to the surface of the skin, so that liquids, gases, etc., escape; secondly, internal incomplete fistula, when the opening extends from the inside of the rectum into the tissues surrounding it, but not through the skin. A few cases of this kind exist, while the sufferers are unconscious of the nature of the difficulty, supposing it to be piles or some trouble—they know not what. Thirdly, external, incomplete fistula, when the opening extends through the skin into the tissues around the rectum, but does not enter the bowel.

Other complications, such as pendulous tits or projections, from one-fourth to one and a half inches in length, are attendant upon fistula. Two or more openings may appear in the skin, all communicating with the same sinus, or opening into the rectum. Sometimes only a small external opening is seen, while a large abscess exists internally. In any case, the discharge is not only reducing to the system, but it is disgusting and offensive.

Causes. The causes are a constitutional predisposition, constipation, piles, or the presence of foreign bodies in the rectum, causing an

abscess or ulcer. Some authors have contended that fistula always originates from an ulcer in the rectum, which gradually makes its way through the cellular tissue to the surface. Others contend that the cause of this disease consists in an abscess, which burrows in the tissues and makes its exit into the rectum, or through the skin, or both. No doubt it may originate in both ways. It can readily be seen that when an internal opening is once established, the *fæces* which enter into it must sooner or later work their way to the surface, burrowing through those parts which offer the least resistance, until a place of exit is reached.

Diagnosis. The disease may be suspected, if there has been an abscess in the parts involved, or if the patient has been subject to pain in the rectum, and the parts are tender, tumid, or indurated. When the fistula opens externally, the linen will be moistened and soiled with pus, or a bloody fluid, and when the tract is large, the *fæces* may pass through it. A careful exploration with a probe, passed into the external opening while the finger is in the rectum, generally reveals the direction of the tract; but, sometimes, in consequence of the tortuous course of the canal, the probe cannot be made to follow it. When the fistula is incomplete, and opens internally, the probe is passed into the rectum and directed outwards, when it may be felt externally. In such cases, a tumor, caused by the contents of the fistula, may generally be seen protruding near the anus, and the pain will be considerably increased during defecation, by the *fæces* passing into it and disturbing its walls. The examination should be made with the greatest possible care, for it is attended with more or less pain.

Treatment. When constitutional derangement exists, it must be rectified, or any treatment will be liable to result in failure. The comfort of the patient may be greatly promoted by attention to the bowels, keeping their contents in a soluble condition, and the liver active, so as to prevent congestion of the rectum and adjacent structures. This can best be done by careful attention to hygiene, and the use of "Golden Medical Discovery" and "Pellets," in sufficient quantities to produce the above named effects.

Fissure of the Anus is caused by over-stretching the anal opening by pushing out constipated stools that tear the mucous membrane.

The symptoms are thin, ribbon-like stools, followed by pain that sometimes lasts for an hour or more. The treatment is by local anæsthetic used by a hypodermic injection, followed by stretching the anus with a suitable expanding speculum, and cutting the base line of the fistula with a fine and delicate knife. Relief is at once experienced, and the bowels are kept loose by Dr. Pierce's Pleasant Pellets, and after each evacuation the ulcer is cleansed by a rectal injection of warm water, using as large a tube as possible, annointed with

Dr. Pierce's Anodyne Pile Ointment. In mild cases the Pleasant Pellets and the use of the injection with the Ointment will effect relief and often cures.

Fistula is much more common than has generally been supposed. It is apt to be associated with pulmonary diseases. Heretofore, it has been supposed that to heal the fistula, during the progress of the lung affection, would result in fatal consequences, and the patient has been left to suffer and die under the combined influence of the *two* diseases. Observation, based upon an extensive experience in the management of such diseases, has proved that supposition to be fallacious in every respect, and we would urge all persons afflicted with fistula to have the affection cured, no matter what complications may exist. The only exception being advanced cases of tuberculous or other constitutional diseases.

We have a great cloud of witnesses testifying to the efficacy of our treatment of the diseases described in the foregoing pages, but for lack of space we can introduce only the following:

STOMACH TROUBLE, RUNDOWN, WEAK.

After Taking Dr. Pierce's Golden Medical Discovery was Strong and Well.

DR. V. M. PIERCE, PRESIDENT INVALIDS HOTEL, Buffalo, N. Y.



MRS. LABORN.

Dear Sir:—I can highly recommend your "Golden Medical Discovery" to any one who suffers from stomach trouble or poor blood. I was terribly rundown in health. My digestion was bad, food did me no good, would sour, causing me a lot of distress, and my blood was thin and impoverished. All this caused me to become rundown and weak. I was miserable when I decided to take Dr. Pierce's Golden Medical Discovery—did not care what became of me, but the "Discovery" relieved me of all the indigestion and stomach trouble and restored my blood to a good healthy state, my appetite returned and I grew well and strong.

Sincerely yours,

MRS. JOHN LABORN.

STOMACH TROUBLE FOR SIX YEARS.

Every Particle of Food Caused Distress.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—For six years my stomach gave me so much distress that I was afraid to eat. Every particle of food seemed to cause gas to form and would give me severe pain. I would have sick-headaches and fainting spells. Lost in weight more than sixty pounds. I took all sorts of medicines but did not get any help. I was discouraged, thinking there was no help for me, when I chanced to read about Dr. Pierce's Golden Medical Discovery and from the moment I started taking it I knew that it was helping me. I took seven or eight bottles and not only did it overcome the stomach trouble, but I regained every pound I had lost in weight and have been as well as any one could wish to be since.

Yours very truly,

MRS. TRESSY SWETKOVICH.



MRS. SWETKOVICH.

INDIGESTION FOR TWELVE YEARS.**"In Two Weeks I Was At Work."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I was troubled with a form of indigestion for about twelve years, and about two years ago I was taken very ill. Could not lie down on account of pain in the pit of my stomach. I thus suffered for three or four days without obtaining any relief, even morphine did not affect me. Finally the pain subsided a little. I wrote to the World's Dispensary Medical Association and they said it was chronic inflammation of the liver and advised me to take Dr. Pierce's Golden Medical Discovery which I did, and in two weeks I was at work. I am a blacksmith and machinist and have some very hard work to do.

Before I was taken sick, I complained of a dull pressure in the pit of my stomach, and the muscles of my arms below the elbows would pain me. Most everything I ate soured and I belched a great deal. I used fifteen bottles of "Golden Medical Discovery," and believe I am about well. Have no symptoms of either of the diseases at present and feel well other ways.

Respectfully,

JOHN P. KIBLER.

J. P. KIBLER, Esq.

**STOMACH AND LIVER COMPLAINT.****Cured by Two Bottles of "Golden Medical Discovery."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In the winter of 1905 I was taken sick with stomach and liver complaint. I got so bad that I could not sit up all day and could eat nothing but milk or eggs. I took our doctor's medicine for ten months. At last I wrote to Dr. Pierce and he advised me to take his "Golden Medical Discovery." I bought two bottles and when I had taken them I felt so much better that I took no more medicine until last July when I began to feel very badly again with pain in my right side and shoulder, so I got two bottles of "Golden Medical Discovery" and took it and I feel like a different person. I am sure if I were able to buy the medicine right along for a few months it would make me perfectly well again. I tell every one your medicine has done more for me than any other.

With many thanks, I remain,

Respectfully,

MRS. MARY JONES.

AN ATTACK OF INDIGESTION.**"I Shall Always Keep Dr. Pierce's Medicines in the House."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I take pleasure in writing you of the great benefit I have received from your medicines. In December I had an attack of indigestion and torpid liver. Had great pain all over my body; could not eat without having pain. I could not stand but a few minutes and could not rest day or night. I tried one of our best doctors without benefit. Had almost given up all hope of life when a friend advised me to try Dr. Pierce's medicines. I wrote Dr. Pierce for advice which I received. By the time I had taken one bottle of Dr. Pierce's Favorite Prescription I felt greatly relieved. I also used Dr. Pierce's Golden Medical Discovery and "Pleasant Pellets." By the time I had taken three bottles of each I was completely cured of my trouble. I cannot speak too highly of Dr. Pierce's medicines and am glad to recommend them to any one suffering as I did. I shall always keep Dr. Pierce's medicines in my house.

Thanking you for your kind advice and the interest you have taken in my welfare, I remain,

Yours truly,

MRS. M. M. HOLLIFIELD.

MRS. HOLLIFIELD.



INDIGESTION. APPETITE POOR. BRONCHIAL COUGH.

MRS. COPELAND.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
665 Main St., Buffalo, N. Y.

Gentlemen:— I take pleasure in recommending Dr. Pierce's Golden Medical Discovery to every person who suffers with bronchial irritation or coughing spells, or with indigestion or stomach trouble. I have taken the "Discovery" on various occasions when my appetite failed, or my food was not digesting properly, and at times when my bronchial tubes were irritated, causing me to have severe coughing spells, and it not only corrected these ailments but also strengthened me in every way. Dr. Pierce's Golden Medical Discovery is the best general tonic I know of, and that is why I am recommending it now.

Very sincerely yours,

MRS. MARTHA E. COPELAND.

INDIGESTION. GAS IN STOMACH.

"In Pain Nearly all the Time."

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.

Dear Sir:— I was in poor health for a number of years with stomach and bowel trouble. I would have nervous indigestion and suffered with gas in my stomach— was in pain nearly all the time. I had ten of the best doctors. They would help me at first, then I would get no better. I started taking Dr. Pierce's Golden Medical Discovery and began to improve. I took ten bottles and now I don't have that gas any more. I took Dr. Pierce's Pleasant Pellets along with the "Discovery" and feel fine, can't say enough for Dr. Pierce's remedies.

Very truly yours,

MRS. BELLA WINZENREAD.

CONSTIPATION. INACTIVE LIVER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:— The only medicine that I would recommend for constipation or liver ills is Dr. Pierce's Pleasant Pellets. Until I learned of these "Pellets" I was always bothered with sluggish and inactive liver and a constipated condition of the bowels. I lost in weight, had no energy, and never felt well. But since taking the "Pleasant Pellets" I am free from constipation, my liver acts properly, I have lots of "pep", have gained in weight and just feel fine. Dr. Pierce's Pleasant Pellets are the greatest regulator of the stomach, liver and bowels that I have ever taken; they keep the system in a healthy, active condition and are very mild.

Yours truly,

C. B. FINCH.



MR. C. B. FINCH.

SLUGGISH LIVER. CONSTIPATION.

MRS. TOWNSHEND.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
665 Main St., Buffalo, N. Y.

Gentlemen:—When I was a tiny child on the farm my people depended upon Dr. Pierce's Pleasant Pellets as a home remedy for sluggish liver and constipation. These "Pellets" were so safe and reliable that I have used them in my own home ever since I was married. I give them to my children whenever necessary, to cleanse the liver and stomach. My father, at the age of 84, is still finding the same satisfactory results in these tiny "Pellets." They cleanse the system without causing any distress, and will eventually put an end to habitual sluggish liver.

Very truly yours,

Mrs. MAUD TOWNSHEND.

Since it is such a simple matter to step into a drug store and obtain Dr. Pierce's medicines any one who earnestly desires to regain health and new life will waste no time in obtaining them. Write Dr. Pierce, Invalids' Hotel in Buffalo, N. Y., for free medical advice. Send Dr. Pierce 10c. if you desire a trial package of any of his medicines.

REMARKABLE EFFECT OF ONE BOTTLE.

PHILLIP STEPHAN,

BOOK AND JOB PRINTING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is now about one and a half years since I took sick with inflammatory rheumatism, from which I was laid up for four months. When I thought I was over that trouble I had nervous prostration and later a bad case of indigestion besides. Soon got so bad I couldn't work any more and felt as though every minute would be my last. Although I doctored all that time with several reputable doctors, spending about one hundred and fifty dollars, felt worse every day, and life became a real burden to me. Although only thirty-three years of age I felt like a person of eighty, while I would feel my heart beat twenty-four hours a day, had no appetite, and did not feel like taking one step. To describe my suffering mentally and bodily would take too much space. About three weeks ago my wife said: "You have now spent for doctors and medicines about one hundred and fifty dollars, and I believe you get worse; why don't you try the medicine again which cured you some years ago?" meaning your "Discovery." Doctor, I acted upon her advice, and now want to express my gratitude to you for the medicine you have put before the public. I have taken nearly the contents of one bottle and *all my bad symptoms are gone.* I feel perfectly healthy in every respect, and that too after giving up all hope of *ever* being cured. A thousand times thanks to you, Doctor; your medicine has done for me what no other doctor or medicine could do, and I think it my duty toward mankind to recommend your medicine to everybody. I know this is wonderful and many people will not believe it, but I am ready to testify to the truth of this statement at any time.

Respectfully yours,

PHILLIP STEPHAN.

INDIGESTION AND GAS ON STOMACH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :

Gentlemen—With pleasure I will endeavor to write you a brief letter to express my thanks and appreciation for the benefit I have received from your remedies and advice. For several years I was a sufferer from indigestion and constipation. Was bothered with bloating in my stomach after eating and was so constipated that my only relief was laxatives or injections. I tried many remedies and doctored with two physicians but would only get relief for a short time. Finally, I wrote Dr. Pierce concerning my case and immediately received a reply, advising me to take "Golden Medical Discovery" and Nux Vomica and eat graham bread, and to avoid drinking anything at meal time. I began the treatment at once and in a short time I could notice an improvement. I used the remedies about three months. It has been over a year now and I can cheerfully say that I have not felt the slightest return of the disease. I am now perfectly healthy, for which I am very grateful indeed, and feel under obligations to you for it.



MRS. BRIGGS.

Respectfully yours,

MRS. NORA BRIGGS.

LIVER AND STOMACH TROUBLE.

DOCTOR V. M. PIERCE, Buffalo, N. Y. :

Dear Sir—Doctor Pierce's Golden Medical Discovery is a familiar name to me. I had stomach trouble and was run-down—had both liver and stomach trouble. Nothing helped me until I used "Golden Medical Discovery." It came as a great blessing because I had been given up by the doctors. This remedy put me on my feet and kept me where I am. I have done my work from the time I used "Golden Medical Discovery." I cannot praise it too much for what it has done.

Yours truly,

MRS. ELLIS SHIPMAN.

OVERWORKED AND NERVOUS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :

Gentlemen—My daughter suffered for six years with torpid liver and stomach trouble; had a great deal of pain around the heart, and rheumatism in joints. Suffered a great deal from sickness in stomach, and at times pain. At the time she began to take your medicine was sick in bed. Could not eat anything except very light food. Has taken in all four bottles of Doctor Pierce's Golden Medical Discovery, and now feels like a new person. I can truly say that your medicine has done her a great deal of good. I have also taken it and received great benefit. I was hardly able to do any work when I began taking your medicine. Suffered a great deal of pain in chest and between my shoulders, and was completely run-down from overwork and nervousness. Took almost three bottles, and now am able to do the work for my family, consisting of seven.

MRS. CARRIE LEISENRING.

HEART-BURN, GASTRITIS, LIVER COMPLAINT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:



MRS. KEEGAN.

Gentlemen—Several months ago I suffered from a severe pain right under the breast-bone. Had suffered from it, off and on, for several years. I also suffered from heart-burn, did not know what was the matter with me. I tried several medicines but they did me no good. Finally, I was told it was my liver. I did not dare to eat as it made me worse. Whenever I swallowed anything it seemed that I would faint, it hurt so. I grew very thin and weak from not eating. Was told to take Dr. Pierce's Golden Medical Discovery. I took five bottles of it, and could feel myself getting better from the first dose. I could eat a little without pain and grew strong fast. To-day I am strong and well and can do a big day's work with ease. Can eat everything and have put on flesh wonderfully. I will say to all sufferers write to Dr. Pierce. He has my undying gratitude.

Respectfully,

MRS. M. J. KEEGAN.

STOMACH TROUBLE.

DR. V. M. PIERCE, Buffalo, N. Y.

Dear Sir:—My husband was suffering with stomach trouble and nothing seemed to help him until he began taking Dr. Pierce's Golden Medical Discovery. This remedy improved his condition so that anything he ate digested and gave him no trouble. I think it must be a wonderful medicine as he has not been troubled any more with his stomach.

Very sincerely yours,

MRS. JOHN MCCANN.

WEAK, TIRED, THIN AND PALE.

"Golden Medical Discovery" Helped Every Organ of the Body.

DR. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.

Dear Sir:—Dr. Pierce's Golden Medical Discovery is worth recommending. To cleanse the system from impurities and rebuild the body into vigorous strength, I think it has no equal.

Some time ago I got into a weak, sickly condition. My food apparently did me no good and I had that tired, indifferent feeling all the time. I grew pale and thin. I knew something was wrong with me but could find nothing that would help me back to real health until a neighbor told me of Dr. Pierce's Golden Medical Discovery and recommended it so highly that I sent for a bottle. Its effect was wonderful, it seemed to give new life, cleansed the blood and helped every organ of the body back to strength and vigor. I am only giving it its just praise.

Very sincerely,

MRS. W. BARNHOUSE.



MRS. BARNHOUSE.

LIVER TROUBLE — GOT THIN AND MISERABLE.



MR. PAVLOCK.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I had liver trouble, got very thin, and completely lost my appetite. I was a miserable wreck. I got discouraged, began to think I was never going to get well until I got Doctor Pierce's Golden Medical Discovery and "Pleasant Pellets," and they cured me of this ailment in three months. I am thankful to Dr. Pierce for what his medicines have done for me.

Yours truly,

WALTER PAVLOCK.

STOMACH, GASTRITIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I was sick for a couple of years. My blood was in bad condition and I had stomach trouble. The doctor said I had gastritis. I took many different kinds of medicine but got no relief until a friend of mine told of Doctor Pierce's Golden Medical Discovery, and I tried it. I began to notice a marked improvement before I had taken three bottles, and in one year I was entirely cured and have been fine ever since. I have gained in flesh and have a good appetite which I did not have for over two years. It has been a year since I have taken any medicine. I do not feel the least trace of a return of the trouble so think I am permanently cured. I take great pleasure in recommending Doctor Pierce's medicines.

Sincerely yours,

MRS. H. NELSON.

IN USE IN FAMILY FOR OVER THIRTY YEARS.

"Pellets Always On Hand For Use When Needed."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For over thirty years Dr. Pierce's Pleasant Pellets have been a favorite family medicine in my home. I gave them to my children when they were small if they became constipated or caught cold. They act on the liver and will rid the system of a cold quicker than any medicine I have ever known. They correct the cause and do it in a very mild way, never causing distress. I always keep them in the house for use when needed and have recommended them to many for I know they merit all the praise I can give them.

I have also found Dr. Pierce's Golden Medical Discovery an excellent medicine to correct bronchial troubles or deep-seated coughs, and I can highly recommend Doctor Pierce's Favorite Prescription as a woman's medicine.

Very truly yours,

MRS. FANNIE SEIG.

DOCTOR PRONOUNCED IT INCURABLE.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—About twenty years ago I suffered with a disease pronounced by my physicians acute indigestion. I continued treatment with my physicians for nearly

two years and at the end of that course of treatment I could see but little, if any, improvement. My physician told me that the ailment now had become chronic and practically incurable and advised that I take a course of at least six months at some mineral springs that were known to benefit or cure cases like mine, but my financial resources had become so depleted with doctor and drug bills during the preceding two years that I felt myself unable to take advantage of this seemingly last resort. A neighbor's wife was at my house during these days of gloom, and suggested that I try "Golden Medical Discovery," saying that she had half a bottle at home and would be only too glad to let me try it. She said that it had cured her husband of a like malady. I tried it, taking it according to directions on the label, and experienced considerable relief when the half bottle was used. I then procured a full bottle and by the time it was used up I noticed my appetite and digestion had considerably improved. The severe attacks of pain seemed like a thing of the past. After taking three more bottles, making four and a half all told, I was back at work, and have not



MR. HERMAN.

been troubled with acute indigestion since. This was twenty years ago, and should say something for Doctor Pierce's remedies.

Yours very respectfully,

J. L. HERMAN.

INACTIVE LIVER, CONSTIPATION.

"The Pleasant Pellets Saved Us Many Doctor Bills."

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Both my husband and I consider your "Pleasant Pellets" ideal as a home remedy for sluggish liver and stomach disorders. We believe they have saved us many a doctor bill, and I would not care to keep house without Dr. Pierce's Pellets in my medicine closet. They are mild as well as being effective as a laxative. I found them exceptionally good during expectancy, they did not gripe or cause any other distress.

Yours very truly,

MRS. FLORENCE KEENAN.

EATING DISTRESSED AT ONCE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am happy to say that I have found Dr. Pierce's Golden Medical Discovery to be a most efficacious remedy for stomach trouble. For many years I could scarcely eat anything without being dreadfully distressed at once, and was apt to vomit the food. I used various medicines without good effect. Later I bought a bottle of Doctor Pierce's Golden Medical Discovery and it proved so satisfactory that I bought several more bottles of the medicine and used it until I was entirely well. That was about four months. You may count on me for a staunch friend to "Golden Medical Discovery," also to your Sanitarium, which I know to be one of the best in the country.

Yours truly,

ASA M. WILLIAMS,
(Lawyer and Real Estate Dealer.)



MR. WILLIAMS.

A HOME ENDORSEMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It gives me great pleasure to testify to the high order of merit of Dr. Pierce's Remedies. When suffering from a deranged stomach a few years ago, I was very greatly benefited by the use of Doctor Pierce's Golden Medical Discovery, and my entire system was toned up. It is certainly an excellent remedy and I never hesitate to recommend it to any one who has stomach trouble.



HON. G. RUEHL.

Many years ago a friend gave me a package of Dr. Pierce's Pleasant Pellets for my father, who was then well advanced in years, and was suffering from costiveness. The "Pellets" were very beneficial to him and he continued to use them until he was cured of his trouble. They were so satisfactory that I began to take the "Pellets" for constipation and am gratified to say that the pills entirely cured me. Since then the remedy has always been used in the family and I cannot say enough in its praise.

I may as well say, too, that Dr. Pierce's Medical Adviser has been in my home for many years and has been most valuable, saving me many dollars in doctors' bills, in the rearing of a family of five children.

Yours truly,

GEORGE RUEHL.

I HEREBY CERTIFY that the foregoing statement is true in every part; that I have made the same freely, because I have used Dr. Pierce's medicine and have been greatly benefited thereby and that I consent that the World's Dispensary Medical Association may publish the same, with or without my portrait, in any newspapers or otherwise in any form and at any time or times, place or places, when, and as long as said Association pleases, without any restriction whatever.

GEORGE RUEHL.

"COULD NOT RAISE MY HAND."

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I feel it my duty to let the world know what Doctor Pierce's medicines have done for me. I was all run-down and could not do my work for two years, although I was ailing for several years. Had taken every kind of medicine, doctored with six different doctors and only got relief for a time. About last November I collapsed, could not raise my hand and nothing would stay on my stomach. The doctor said it was chronic indigestion of stomach and bowels and gastric inflammation. I suffered everything. One day my mother asked why I did not try Doctor Pierce's medicines so I sent and got a bottle. When I had taken about half the bottle I could sit up, so I wrote to Doctor Pierce. He sent me a question-blank and by return mail told me to take "Golden Medical Discovery," and to-day I can do most of my work and can walk to church, about half a mile. All my neighbors and friends think it a miracle for they all thought I could not live.



MRS. RANSCHER.

Respectfully yours,

MRS. CHAS. RANSCHER.

NERVOUS DYSPEPSIA.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:



MRS. BIRDSALL.

Dear Sir—Some years ago I was a great sufferer from nervous dyspepsia and I suffered so for an hour or two after eating, could hardly stand it. My aunt urged me to try Doctor Pierce's Golden Medical Discovery, and I used three bottles in all. At once, within twenty minutes after taking the first dose, I felt positive relief, and continued growing better and stronger daily and was entirely cured by the use of three bottles; moreover, the cure has proved permanent as I have never had any return of these symptoms.

I am now starting my husband on "Golden Medical Discovery" for stomach trouble and rheumatism and know it will benefit him. I am glad to recommend Doctor Pierce's remedies to others.

Sincerely yours,

MRS. JAMES BIRDSALL.

GIVEN UP TO DIE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—It is with much pleasure that I write to you, telling what your medicine, "Golden Medical Discovery," did for me. About four and a half years ago I was taken down sick with a very severe pain in the stomach. The doctor I employed could not tell what was the matter with me, although he thought he knew, and I kept getting worse. Got so weak I could not turn myself in bed, and the doctor as well as my folks gave me up to die. I told my people that I would not take any more of the doctor's medicine but if one of them would go to town I would send for six bottles of Doctor Pierce's Golden Medical Discovery. The folks did not like to hear me talk in that way, for, as weak as I was, they thought I would surely die if I stopped using the doctor's medicine, but I told them that I would not take any more of it, so they got the "Golden Medical Discovery." By the time I had taken six bottles I weighed 174 pounds, which was ten pounds more than I ever weighed before. I felt so grateful to Doctor Pierce that I wished to send him a testimonial then, but kept putting it off. I have talked with so many persons who seem to doubt the genuineness of the testimonials they see printed, that I finally made up my mind to send this, as it may strike some one to whom it will be of help.

Yours very truly,

J. E. HEWITT.

LIVER AND STOMACH.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I had liver trouble quite badly, also stomach trouble. I tried several doctors but got no relief whatever. I got Doctor Pierce's Golden Medical Discovery and Pleasant Pellets and in less than six months I was completely cured and have never felt any return of either of my complaints since.

My daughter has taken "Favorite Prescription" for woman's weakness and found it to be good also. I am a great believer in Doctor Pierce's medicines and can highly recommend them.

Very truly yours,

MRS. EDWIN SPITTLER.



MRS. SPITTLER.

STOMACH AND LIVER.**Sick-Headache Overcome by use of Pleasant Pellets.**

Dr. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.



MRS. OLSON.

Dear Sir:—A few years ago a neighbor told me of Dr. Pierce's Pleasant Pellets for the relief of stomach, liver and bowel distress. I had from a girl been subject to bilious sick-headaches, and a disagreeable feeling of nausea. I had tried almost everything that promised to give relief but no satisfactory result followed. But I am delighted with the "Pleasant Pellets" for they have given me the greatest satisfaction. I am thus relieved of the bilious headaches, which had so long troubled me. I have never used a stomach and liver medicine that I could recommend as I can Dr. Pierce's Pleasant Pellets. I like the gentle manner in which they act upon the liver and bowels, and the thoroughness in which they do their work.

Very truly yours,

MRS. A. E. OLSON.

FREQUENT BILIOUS ATTACKS FOR A PERIOD OF SEVEN YEARS.

Dr. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.

Dear Sir:—Dr. Pierce's Pleasant Pellets are the best I have ever taken. For seven years I suffered each month with bilious attacks. I would have such severe headaches that I would be compelled to go to bed for three or four days at a time. I doctored but without relief. They said there was no help for me. About four months ago a friend advised my taking the "Pleasant Pellets" which I did, and I have never had one of these attacks since. I shall never be without the "Pellets" in case I should need them. I take pleasure in recommending them.

Very sincerely yours,

MRS. EDITH R. HARGREAVE.

STOMACH TROUBLE. GENERAL BREAKDOWN IN HEALTH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—I suffered a general breakdown in health, my stomach went back on me, everything I ate caused pain and distress. I grew nervous, got very weak and pale and it just seemed that I had pains and aches all thru my body. I was too miserable to be around when I started to take Dr. Pierce's Golden Medical Discovery and it relieved me of all my nervousness and stomach trouble and completely restored me to good health. I could eat without being distressed, in fact, I never felt better physically than I did after taking the "Discovery." Since then I am never without a bottle in the house and when I feel out of sorts I take it and am soon all right.

Respectfully,

MRS. GRACE SHELDON.



MRS. SHELDON.

INDIGESTION.**"Suffered Eighteen Months."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. MOORE,

Gentlemen—This is to certify that I have used Doctor Pierce's Golden Medical Discovery, and I recommend it to all suffering humanity. I had been a sufferer from indigestion for eighteen months. Nothing I ate agreed with me, and I felt sluggish and tired. Was so weak I could hardly get around, and could not sleep well at night. I was advised to use your wonderful "Discovery" by one who had used Doctor Pierce's medicines, and from the first bottle I began to feel like a different person. I have taken six bottles and am now well. Can eat as much of anything as I want and it does not hurt me. Am in better health than I have been for several years. Am thankful for your advice and the good results I received from your medicine, and would say to all sufferers, consult the World's Dispensary Medical Association.

Yours truly,

MRS. TELIA MOORE.

SLUGGISH LIVER, CONSTIPATION.

DR. V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—It is many years since I first used Dr. Pierce's Pleasant Pellets and I always have found them to give most satisfactory results. For sluggish liver and constipation as well as sick headaches, I consider these "Pellets" unequalled. I have also taken "Golden Medical Discovery" when my system required building up, and I can praise it very highly as a tonic and builder.

Very truly yours,

MISS MARY M. ROBERTS.

STOMACH AND KIDNEY TROUBLE.**"Scarcely Able to Walk."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was very sick with stomach and kidney trouble, caused by typhoid fever. Could not eat anything without it would hurt me. Was scarcely able to walk for about fifteen months and was very weak and nervous. After taking one bottle of Dr. Pierce's Golden Medical Discovery I began to feel better, and after taking six bottles I can now eat anything I want and feel just fine. Am doing all my housework which I probably never would have been able to do had it not been that I read a little book of testimonials regarding Dr. Pierce's medicines. I cannot recommend the "Golden Medical Discovery" too highly.

Sincerely yours,

MRS. ENOCH SATTERFIELD.



MRS. SATTERFIELD.

MELANCHOLY AND PALPITATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was troubled with pain in left side, distress after eating, food would seem to rise in my mouth, was melancholy, and, worst of all, my heart was not right and I felt all the time as if I would die. Had also many other distressing symptoms. I wrote to you and you called my case indigestion and advised me to use your medicines. I improved rapidly until my mother's health failed. I wrote you respecting my mother, who was suffering from troubles incident to change of life. She suffered so with her back and head she thought she would die, and we thought so too—but Dr. Pierce's medicines cured her entirely. We owe you grateful thanks such as words can never express.

There are many people who use your medicines who never report the benefits they have derived. This is true in our neighborhood.

Yours truly,

MRS. JOSEPHINE COX.

"THIN AND POOR AND WEAK."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MR. MCWADE.

Gentlemen—I received a letter from you some time ago, wanting to know what your medicine had done for my husband. It has improved his health considerably. Last winter when I wrote to you stating his case as near as I could, he himself, and I and others never expected him to get well, but thanks to your medicine he has regained real good health, although his stomach is very touchy and he has to be careful what he eats. He has taken six or seven bottles of "Golden Medical Discovery" and is taking it yet. My husband was very sick all last winter, his case being indigestion. He tried everything that he was told. Consulted two physicians but with very little relief, as he had pains so severe that he would get blisters all over. Pain in his bowels and back and sides. He was drawn double and he got very thin and poor and weak. He couldn't eat anything it seemed without suffering severe pain, but thanks to Dr. Pierce's Golden Medical Discovery it has brought him out almost a new man.

I remain, your friend,

MRS. MARY MCWADE.

"COULD NOT WALK."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have had such a wonderful experience with Dr. Pierce's Golden Medical Discovery that I do not hesitate to recommend it, believing it to be a wonderful medicine to build up the system. I was all run-down, very nervous, and suffered dreadfully with my stomach. The doctor pronounced the trouble indigestion. I became so I could not walk, had to have help to dress myself and had some very bad falls in trying to walk. Doctored a long time without permanent relief. I decided to write to Dr. Pierce at once, and later got four bottles of his "Golden Medical Discovery," also two vials of Dr. Pierce's Pellets. Before I had finished taking these remedies I felt like another person. Am now well and can do all my work and walk any distance I wish. The "Pellets" are just grand. I never expect to be without them in my house. Many thanks to Dr. Pierce for his wonderful medicine.

MRS. M. J. SEAY.

"GAS IN STOMACH."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had frequent spells of indigestion for many months, suffering mostly with gas in the stomach. I used two bottles of Dr. Pierce's Golden Medical Discovery and two of "Favorite Prescription," and was greatly benefited by their use. I also took the "Pleasant Pellets," which are far superior to any I ever used before. I have great faith in Dr. Pierce's medicines and do not hesitate a moment to recommend them highly.

I hope this testimonial will be of benefit to many other sufferers.

Yours truly,

MRS. ROSCOE M. JONES.



MRS. JONES.

**FOR CONSTIPATION, BILIOUS ATTACKS,
SICK-HEADACHES.**

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—When I was a boy at home my mother always kept Dr. Pierce's Pleasant Pellets in the house for immediate use and I myself have taken them for the last twenty years when in need of medicine of their kind and they have always given perfect satisfaction. For constipation, bilious attacks, sick-headaches or indigestion they have no equal. They regulate one's system as no other medicine will. They are very pleasant, never causing distress. I am glad to lend my indorsement to the "Pleasant Pellets."

Very truly yours,

CHAS. GOSNELL.

"TIRED-OUT FEELING."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. FAIRCHILD.

Gentlemen—I am so thankful for what your medicine has done for me thought I must let you know. Had been troubled all the fall with a "tired-out feeling"; was dizzy, stomach troubled me, and in fact was all run-down and didn't feel right anywhere. Bought one bottle of Dr. Pierce's Golden Medical Discovery and one of "Favorite Prescription," and before I had finished taking them, felt as well as I ever did, and have had no return of a tired or sick feeling since.

Thanking you for your kindness and promptness, I remain,

Respectfully yours,

MRS. FRANK L. FAIRCHILD.



MRS. WADE.

BILIOUSNESS, NAUSEA, SICK HEADACHE AND CONSTIPATION.

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—Doctor Pierce's Favorite Prescription and Pleasant Pellets are two favorite remedies of mine as I have used both with most excellent results. The "Pleasant Pellets" proved of most satisfactory help in biliousness, nausea, sick headache and chronic constipation. They gave me complete and full relief. The "Favorite Prescription" filled its place for my female troubles. It is reasonable to suppose these ills were caused by my general debilitated and exhausted nervous condition, which was controlled fully by the "Favorite Prescription."

Sincerely yours,

MRS. S. T. WADE.

CONSTIPATION. STOMACH DISTRESS.

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.

Dear Sir:—I gladly recommend Dr. Pierce's Pleasant Pellets as the most satisfactory medicine for relieving and regulating the stomach, liver and bowels, that I have ever used. For years I had suffered with constipation and sour stomach, and could find nothing that I was really satisfied with. But the "Pleasant Pellets" just suit me in every way. Their gentle persuasive action causes no discomfort. It would be a crime not to tell people about these inexpensive little "Pellets" when one knows of them from experience.

Yours respectfully,

MRS. S. T. GERNERT.

BROKE DOWN IN SUMMER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—Your "Golden Medical Discovery" is a great medicine to restore lost health and strength. Having suffered for months with indigestion I suddenly broke down during the heat last summer and was unable to continue my work. The doctor insisted that I must take a vacation, but I could neither be spared from the work nor could I afford the time, and as his prescription did not help me any, and a neighboring druggist advised me to take your "Golden Medical Discovery," assuring me that it was an efficacious remedy, I decided to try it. Within three days I felt a change for the better; my food no longer distressed me; the medicine stimulated my appetite. I have enjoyed good health ever since. I have recommended your "Golden Medical Discovery" to a large number of friends and willingly make this public acknowledgment of the healing virtue of your medicine.

Yours respectfully,

ROBERT HENDERSON.



R. HENDERSON, Esq.

SUFFERED SEVERELY—WAS JUST A SKELETON.

DR. PIERCE'S INVALIDS' HOTEL, Buffalo, N. Y.:

Gentlemen—About twelve years ago I was taken sick, and grew worse every day. I was sick for about six years. I tried seven of the best doctors we could find but kept growing worse all the time. At last I got down in bed, and there would be as long as three weeks that they could not move me at all. I had such pain in my stomach it was almost like taking my life. The doctor would come and give me morphine; then I would fall asleep only to awake feeling much worse. I did not dare eat anything, and I was not hungry. I lived for a long time on malted milk. Every one that saw me said I would die—I was just a skeleton. One day my husband said, "Why don't you write to Dr. Pierce? I know he can cure you."



MRS. PIRKL.

I wrote, telling just how I was, and said, "If you can cure me say so." He said that he was confident he could. I sent to him at once for his specially prepared medicine, and I can truly say he saved my life.

After I got out of bed I got weighed, and weighed 75 pounds. Now I weigh 150 pounds. I can do my own housework, washing and all. I eat whatever I want and can easily walk four miles in one day. Dr. Pierce cured me.

Very truly yours,

MRS. ELLA PIRKL.

CHRONIC DIARRHEA.

DR. V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—I had severe attacks of chronic diarrhea. I had been plagued with it for years, and at the request of my son got Dr. Pierce's Golden Medical Discovery and was cured. I can highly recommend the "Discovery" for chronic diarrhea, and have told others to try it; it is also a great nerve builder.

Yours truly,

JACOB H. MARTIN.

STOMACH AND BOWELS. TONGUE COATED.

V. M. PIERCE, M. D., 663 Main Street, Buffalo, N. Y.:

Dear Sir—I take great pleasure in announcing to you my heartfelt thanks for the benefit our boy Arthur has derived from your medicine, "Golden Medical Discovery." He is a different boy altogether after taking five bottles. His tongue used to be coated and his stomach and bowels always out of order, but Dr. Pierce's Golden Medical Discovery has cured him. We will recommend your medicine to whomever we can, as we think there is none better.

Yours truly,

MRS. OTTO NELSON.



ARTHUR NELSON.

CHRONIC CONSTIPATION OVERCOME BY DR. PIERCE'S PLEASANT PELLETS.



RUTH MARIE HACHMAN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—One of my little girls had a severe spell of sickness and it left her with chronic constipation. I could not get anything that would relieve her. The condition of her bowels kept her from getting strong. I finally began giving her Dr. Pierce's Pleasant Pellets and they overcame the constipation and she grew strong and well. I have never used any medicine that is so good as a laxative or cathartic as these "Pleasant Pellets." I find them the very best and the mildest of anything I have ever used. I consider them almost indispensable as a family medicine.

Very truly yours,

MRS. F. P. HACHMAN.

PALPITATION OF THE HEART.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—In reply to your letter, I take great pleasure in writing to you. I was a sufferer from stomach and liver trouble for about three years. Doctored with four or five home doctors and they failed to do me any good. I was reading in one of your pamphlets and decided that I would try Dr. Pierce's remedies. I had palpitation of the heart so badly I thought I would die. Could not eat anything that was at all greasy. Took seven bottles of "Golden Medical Discovery," and I can say it gave me a permanent cure. For two years I could not go out and do a good day's work in a whole week, I was so weak and nervous. That is all gone now, and I can work every day at present. I thank God for the great benefits I have received from your wonderful remedies.

Yours truly,

WALTER P. STRICKLAND.

LIVER TROUBLE

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen:—That your remedies are not for the few, but for the many is evident, for I personally know of many scores of persons in this city who have been restored to health and strength by your medicines. I know that Dr. Pierce's Golden Medical Discovery is most valuable in cases of derangement of the liver, having taken the medicine some two years ago when I had a bad attack of liver trouble, and I never used a medicine before that did me so much good. I have known Dr. Pierce for twenty-six years, and do not wonder at his success, for he is a physician and man of sterling qualities, is possessed of extraordinary skill, and he has in his Sanitarium a corps of Specialists who are chosen because of their unusual knowledge and professional skill.

Respectfully yours,

HENRY LANDSHEFT.



HON. H. LANDSHEFT.

LIVER COMPLAINT, CHRONIC CONSTIPATION.

MISS BROWN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—I can highly recommend Dr. Pierce's Pleasant Pellets for the liver. At one time I suffered with liver complaint and chronic constipation, and by taking the "Pellets" I was completely cured of both my liver trouble and the constipation and have never had any return of these complaints. "Pleasant Pellets" are the best regulator of the system that I have ever taken. They are very mild to take, but excellent in effect.

Yours very truly,

MISS JENNIE S. BROWN.

STOMACH TROUBLE.

Food Caused Severe Pain.

DR. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.

Dear Sir:—My stomach was in an awful condition. I could not eat anything but what it would bloat me and cause severe pain. My digestion was completely upset. The doctors tried but gave me no relief. Finally a friend told me about Dr. Pierce's Golden Medical Discovery. I decided to try it and it proved to be exactly the right thing for me. It relieved me of the stomach trouble and benefited me in general.

Very truly yours,

MRS. PEARL MILLER.

STOMACH TROUBLE.

"Golden Medical Discovery" Gave Prompt and Lasting Relief.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—Doctor Pierce's Golden Medical Discovery is certainly a grand medicine for stomach trouble. I have suffered greatly all my life from a disordered stomach. My food seemed to set so heavy, no matter what I ate. I have taken many of the medicines advertised for this trouble but none of them has ever come up to "Golden Medical Discovery" for giving prompt and lasting relief, and whenever I have had a sluggish liver with sick headaches and constipation I have found that Dr. Pierce's Pleasant Pellets were a very efficient remedy. They do not gripe or cause any other distressing condition such as a great many pills do.

Very truly yours,

MRS. LAURA KIMBROUGH.



MRS. KIMBROUGH.

APPENDICITIS. HERNIA.

DOCTOR V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:



MR. SAUER.

Dear Sir—One year ago to-day I was operated on at your Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for appendicitis. My appendix you found was in bad shape. I was in bed five and a half days after the operation, including the day I was operated on. The seventh day I took a walk out on the street. After the operation I had no fever or vomiting. Started home fifteen days after operation, a distance of about 250 miles, and arrived in good condition.

Previously, on December 12, 1912, I was operated on at your Institution for hernia of over twelve years' standing, with local anæsthesia, hardly any pain. Was in bed one and one-half days, no vomiting or fever. Left for home December 30th. Your charges were very

reasonable, in fact, far cheaper than I could have had it done around here, including expenses both going and returning. Both operations were successful and cures permanent.

Yours very truly,

O. C. SAUER.

STOMACH TROUBLE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—I was suffering with what I thought to be heart trouble. Finally I was convinced that it was really my stomach. I thereupon began taking Dr. Pierce's Golden Medical Discovery and in a short time the trouble left me entirely, and since then I have never been bothered any more, with heart or stomach, whichever it was. The "Discovery" also gave me new blood and more strength.

Sincerely yours,

MRS. MAX L. FISHER.

INDIGESTION AND UTERINE DISEASE.

Nothing But Words of Praise for the Wonderful Medicines.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—Words fail to express to you my gratitude, but I feel like telling all the world of the good your wonderful medicines have done me.

When I began taking your medicines in February 1908 I was so weak and nervous I could not sit up all day. I could eat hardly anything without great distress, and my mind was so bad I was almost deranged. My neighbors thought I would not live long and I thought myself that I had to die very soon, but thanks to the Good Master and to your great medicines I am again able to work and can eat anything I want. I have taken twelve bottles of your medicines—eight of "Golden Medical Discovery," four of your "Favorite Prescription" and three vials of "Pleasant Pellets" and I feel like a new woman. I also used two boxes of "Lotion Tablets" for uterine disease and found them very effective. Two doctors called my disease indigestion and nervousness, but did me little or no good. If it had not been for your fatherly advice and your wonderful medicines I have an idea that I would not be living to-day. I have nothing but words of praise for Dr. Pierce and his

Yours respectfully,



MRS. DANIELS.

wonderful medicines.
MRS. JOHN DANIELS.

STOMACH BAD; LOST AMBITION AND STRENGTH.**Praises Golden Medical Discovery.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.



MR. MUIR.

Gentlemen:—Four years ago I was in a poor state of health. I had lost ambition and strength, my food seemed to do me no good, my stomach would not act naturally and there was a constant pain in my back. My wife heard of Dr. Pierce's Golden Medical Discovery and got me a bottle. A gradual improvement came to me and today I can say I am a well man and shall always feel it was the cleansing, tonic effect of the "Golden Medical Discovery" that removed the cause of my trouble. I know of nothing better than the "Discovery" to cleanse the blood and rebuild the body into health and strength, and for that reason I gladly recommend it.

Sincerely yours,

JOHN MUIR.

STOMACH DISTRESS.

DR. V. M. PIERCE, Buffalo, N. Y.

Dear Sir:—For some time I was suffering with stomach trouble in the form of poor digestion, and not until I took some of Dr. Pierce's Golden Medical Discovery did I find any relief. The "Discovery" improved my condition in just a very short time so my stomach did not trouble me any more, and it also improved the condition of my blood. I consider it a wonderful tonic.

Very truly yours,

MRS. IRENE WILSON.

STOMACH TROUBLE OF THE WORST KIND**Cured by Home-treatment.**

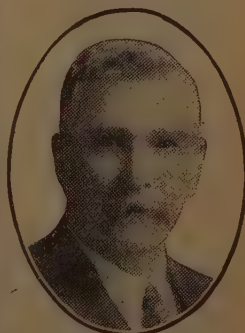
WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I feel it my duty to send you a testimonial. As you know I had stomach trouble of the worst kind and before taking your treatment had taken treatment from leading physicians in Indiana, Illinois and Kansas, but got no relief from any of them. Several times when I had had spells I came near dying. I tried patent medicines and home physicians but got no relief, so sent to you for treatment. I cannot find words to give your physicians the credit they should have, not only in my case but in the cases of four fellow workmen whom I induced to take your treatment. They are as well to-day as they ever were. Their sicknesses were not the same as mine but their cures were as speedy and effectual as mine, and if there are any sufferers in reach of me I would like to have them come and see me for I could tell them better than I can write; or any of my friends can tell them what I suffered.

I hope this catches the eye of some poor sufferer who may get the same relief that I did. Now, gentlemen, I thank you from the bottom of my heart for the good you have done me.

Sincerely yours,

JAMES RIDDLE, Sr.



J. RIDDLE, Esq.

CASE OF CHRONIC DIARRHEA CURED BY HOME-TREATMENT

At the time the case was first submitted to us the bowels were moving six or eight times a day. In addition to the diarrhea, the patient had suffered from indigestion and womb trouble for eight years. There was almost continual pain from the top of the head to the hips and through the shoulders. There was weakness, soreness and numbness in the arms, hands, back and hips; the bladder was irritable, urine being passed frequently, or occasionally scant, dark, thick, with a brick-dust deposit. There was a dragging sensation in the region of the womb. Menstruation was irregular, and she had frequent trembling spells, lasting for hours. There was difficulty in fixing the attention, even for a sufficient length of time to write a brief letter. In fact, she was so weak and nervous she could scarcely write at all. Sleeplessness was a prominent feature of the case. The principal diet consisted of light bread and hot milk; could not use Graham bread. A course of special treatment was supplied to her, but soon after commencing the treatment she had an attack of pneumonia. In due time the treatment was resumed, and then followed an attack of the epidemic influenza, or grip, so that, although the treatment was carried on at intervals during a year, there were but few occasions when our specialist had what he considered full control of the case. A year after the case was discharged the following communication was received:

DR. PIERCE'S INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:



MRS. GWIN.

Gentlemen—I should have written sooner, but I waited to see if there would be any return of my old disease. After suffering over eight years with severe chronic diarrhea, you have cured me; I have had no return of it for over a year. It is with gratitude I write to you to tell you the great good you have done me, for I am sure I would have been in my grave before this had it not been for your treatment. My stomach troubles me very little any more. Occasionally I use a bottle of "Golden Medical Discovery" and a vial of "Pellets." Hoping that the kind Father may spare your lives for many years to do good to suffering humanity,

I am, very gratefully yours,

MRS. R. S. GWIN.

MALARIA. CHRONIC COUGH.

V. M. PIERCE, M. D., 663 Main Street, Buffalo, N. Y.:

Dear Sir—Dr. Pierce's medicines cured me when doctors and other medicines had failed. I suffered for years with malaria. I became all run-down and was a nervous wreck. I also had a nasty cough which had become chronic. I could not seem to get any medicine, either doctors' or ready prepared, that would help me, and knowing of Dr. Pierce's medicines through the taking of them by other members of my family, I decided to try them. I took the "Golden Medical Discovery," "Favorite Prescription" and "Pleasant Pellets" as well, and by a systematic use of these medicines I was completely relieved of my ailments and restored to a state of good health. I consider it was a permanent cure as I have never had any return of these troubles. I can only speak in the highest praise of Dr. Pierce's medicines.

Very truly yours,

MRS. MARY WALL.

STOMACH TROUBLE FOLLOWING TYPHOID.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.



MR. WALTER REAM.

Gentlemen—I had a spell of typhoid fever and it left my stomach in very bad shape. I could not seem to get any relief from it. My stomach was sore, my food did not digest properly—would sour and gas would form. After eating I would bloat and suffer with pain. I got very weak and nervous, was "all in" physically. I took medicine and doctored but nothing seemed to touch my case until I used Dr. Pierce's Golden Medical Discovery and by the time I had taken three bottles of this medicine I was a well man. I could eat anything I wished and digest it without being distressed or bothered in any way. I have never had any trouble with my stomach since. I wish I could tell all the people who suffer with indigestion just how much I think of the "Golden Medical Discovery."

Very truly yours,

WALTER REAM.

CHRONIC DIARRHEA.WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It has now been six years since I called at your World's Dispensary for examination and found I had ulceration of the rectum, with quite a catarrhal affliction—also had chronic diarrhea for four years. I took one month's treatment home with me and it began to help me. At the end of the month I called on you again and took another month's treatment home with me and used one-half of it and was cured. I am well to-day.

Yours with good wishes,

C. P. CANFIELD.



C. P. CANFIELD, ESQ.

**INDIGESTION, CONSTIPATION, VARI-
COCELE.**WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—In regard to my condition of health, will say, although I am not entirely well, yet I have received much and lasting good from your treatment. My digestion was improved greatly, so that little trouble is experienced after eating; my liver seems to act reasonable well, and my bowels are much better. My varicocoele I consider entirely cured, as I have not used the bandage for one half day for more than six months, and do not experience any inconvenience from that source.

Yours truly,

HARLAN HODGES.

(Street Railway Co.)



H. HODGES, ESQ.

LIVER, DIZZINESS, NAUSEA.

Dr. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

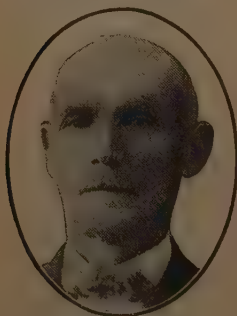
Dear Sir—Have been troubled more or less with my liver for a great many years, had dizziness and vomiting. I got only temporary relief from physicians. Recently I had dull stabbing pains in my back under my shoulders, which made me very nervous. I have taken four bottles of Dr. Pierce's Golden Medical Discovery, two of "Favorite Prescription" and two vials of the "Pleasant Pellets," and have found great relief. I have also taken the "Discovery" for a cough and it gave relief. I shall always speak in great praise of all Dr. Pierce's medicines, as they gave me more relief than anything I have taken.

Very gratefully yours,

Mrs. EDNA S. HAKES.

LIVER TROUBLE AND INDIGESTION.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:



MR. SCARLETT.

Dear Sir—I feel I can't be thankful enough for the good Dr. Pierce's medicine has done me; it's the best I have ever taken. I went to four doctors last year—they doctored me for liver trouble and indigestion but none of them did me any good. I used to be so tired and sleepy and had no life in me to work. I had large boils and such burning feeling all about me, and in the night my mouth was so dry. For years I was like that. Now, since taking the "Golden Medical Discovery" (I have taken about seven bottles), I never have a dry mouth and feel so much better I feel it my duty to let it be made known for the sake of other sufferers. If any one

wants to know any more from me, write me and I will gladly answer.

Very truly yours,

WILLIAM SCARLETT.

LIVER. JAUNDICE.

V. M. PIERCE, M. D., PRESIDENT WORLD'S DISPENSARY MEDICAL ASSOCIATION,
No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—Several years ago I had a spell of jaundice. My liver was in an extremely sluggish condition, and I was in great need of a tonic. It took only two or three bottles of the "Golden Medical Discovery" and also the "Pleasant Pellets" to tone up my liver to such an extent that I have never since been bothered with my liver.

I have given the "Favorite Prescription" to my daughter when she was a young girl and it cured her of irregularity and pain.

Dr. Pierce's are reliable remedies and I am glad to recommend them.

Yours very truly,

Mrs. NELLIE HARTWELL.

GAINED FIFTEEN POUNDS.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I will here add my testimony of the effectiveness of your remedy upon myself.

I was troubled with indigestion for two years or more. Doctored with three different doctors besides taking numerous kinds of so-called "stomach cures," but received no permanent relief. I was run down, could not sleep at night with the pain in my chest, caused by gas on the stomach. Was weak, could eat scarcely anything although I was hungry nearly all the time. About one year and a half ago I began taking your "Golden medical Discovery," and after having taken several bottles am nearly cured of stomach trouble. Can now eat without distress and have gained fifteen pounds in weight. I used to weigh 115 and now weigh 130, and feel fine.

Very truly yours,

MISS LOTTIE KNISELY.

LIVER TROUBLE AND FAINTNESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is with the greatest pleasure that I write the following testimonial, for, by chance, it may do hundreds of suffering people good.

I have taught school some years. Last summer I experienced that worn out feeling, having no desire to work. I was weak and irritable and suffered from feelings of faintness. Doctored for liver trouble without relief. The time arrived for me to commence my year's work; the first day I felt as though I must resign and go home, but help arrived. A friend recommended Dr. Pierce's Golden Medical Discovery and "Favorite Prescription." I commenced taking them and to-day I feel like a different person. I heartily recommend Doctor Pierce's remedies to all for they help where other remedies seem to fail.

Respectfully yours,

JOSIEPHINE STILES.



MISS STILES.

DIARRHEA.

The Greatest Liver Medicine.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Doctor—I have used your medicines in my family and find them to be the greatest medicines known for the diseases of the human race. Your "Golden Medical Discovery" is the greatest medicine I ever used for run-down nerves; the greatest liver medicine known in this country; good for diarrhea. I know this medicine is good for the above complaints for I have used it for them.

I will answer any inquiry from any sick person and gladly tell what this wonderful medicine has done for me.

Yours for success,

NATHAN CARROLL,

HERNIA AND PILES CURED WITHOUT PAIN.

MR. APP.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have been successfully treated at your institution for piles and also rupture of the left side.

Your Institution is all it is claimed to be, and the treatment of my case was accomplished without pain and apparently any risk. Your method of using locally cocaine as an anæsthetic is such a decided improvement. I did not have to take any dangerous ether or chloroform, but had a small quantity of medicine injected that made the operation as painless as though it was being done on some one else. At the same time I knew everything and could see what was being done.

You have my kindest thanks for the good care and many attentions given me. Your nurses and physicians all give kind and skillful care.

Yours very truly,
J. J. APP.

P I L E S .**Found Relief After Twenty Years.**

DR. PIERCE'S INVALIDS' HOTEL, No. 663 Main Street, Buffalo, N. Y.:

Dear Friends—I am glad to say that I am absolutely cured of piles after suffering from them more or less for the last twenty years. I think it will be saying very little to say that I am thankful to your Institution and to the surgeon who was my doctor while I was there. I do think I was the happiest man that ever left your Institution when I found out that I was cured. I am a living advertisement for you. There are several suffering from the same complaint whom I have told about my success at your Institution but some are financially not in shape to go and others hear of some quack institution that promises relief. But yours is the only real success I have heard of.

Now, doctors, if you should want to refer anybody to me, I am ready to answer any time.

Yours truly,

H. W. VOGT.

**PILES, VARICOCELE AND OBSTRUCTION OF
URINARY ORGANS****Treated at Invalids' Hotel and Surgical Institute.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Being a sufferer with piles for fourteen months and having tried all kinds of medicine and salves with no benefit I resolved to go to your Institution and have them removed. This was done the second day I was there and with so much satisfaction that I resolved to get fixed up entirely, so, having varicocele and part obstruction of the urinary organs I was on the operating table again in about ten days, and in about twenty-five days was home again—that being the 3rd of April. I did the work on the farm that spring and summer and am still all right.

I could not say enough for your well managed Institution if I wrote a little pamphlet, so will simply say to sufferers not be afraid to go where they will be used so well, not in one but in every department of the Institution.

Wishing you success, I remain,

Yours truly,

ROBERT WIGHT.



MR. WIGHT.

INDIGESTION

MRS. HUTCHINSON.

Dr. V. M. PIERCE, 665 Main St., Buffalo, N. Y.

Dear Sir:—About three years ago I went down in health, my food did not digest properly, causing fermentation and I would have sour risings and belching spells. I lost my appetite for meals and as I was nursing a two-months' old baby he was affected by my condition. Dr. Pierce's Golden Medical Discovery—I took just one bottle of it—relieved my digestive organs so that I was able to enjoy my food, and as I gained in strength my baby became stronger too. I have not had a spell of indigestion since that time but if I ever have, I shall surely take Dr. Pierce's Golden Medical Discovery again.

Yours respectfully,

MRS. ZOLA HUTCHINSON.

APPETITE POOR. RUNDOWN FROM OVERWORK.

"Could Hardly Walk Sometimes."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

665 Main St., Buffalo, N. Y.

Dear Sirs:—I was all rundown from overwork. I was weak and my back and limbs hurt me so I could hardly walk sometimes. My appetite was poor and my blood was thin and pale. I was greatly benefited by taking Dr. Pierce's Golden Medical Discovery, and can highly recommend it to all who feel the need of a tonic.

Very truly yours,

EDWARD R. TERRILL.

CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

665 Main St., Buffalo, N. Y.

Gentlemen:—Dr. Pierce's Pleasant Pellets are the best I have ever used for regulating the stomach, liver and bowels. Prior to two years ago I suffered from constipation and could find nothing that would give me permanent relief. Finally my mother told me of Dr. Pierce's Pleasant Pellets and urged me to try them. Now I would not be without them in the house for anything, for since using them I have had no trouble whatever with my bowels; they act in the most natural way by the use of an occasional "Pellet." And the beauty of it is they cause no distress. I am glad of the opportunity to recommend Dr. Pierce's Pleasant Pellets as they never disappoint.

Very sincerely yours,

MRS. E. L. WITHROW.



MRS. WITHROW.

COMPLICATED DISEASE OF RECTUM.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For about thirty years I had been troubled with a complication of diseases of the rectum, chiefly piles and prolapsus. I used to have periodical bleeding spells, lasting from four to seven days, and sometimes nearly bleeding to death. I was operated on twice in which the knife was used; was burned many times by carbolic acid, also took five months of the Brinkerhoff treatment, and other cure-alls too numerous to mention. But, to the celebrated World's Dispensary Medical Association I am indebted for a permanent cure. I have no signs of my old trouble and feel satisfied that I shall not. I can earnestly recommend the doctors and nurses at Dr. Pierce's Invalids' Hotel for ability and kind treatment, as well as those who serve at the hotel. It is a place I shall ever hold dear, for it's there I took a new lease of life, and felt when I left like I was leaving friends and home as well as a haven of rest for the afflicted and a cure for their ills.

Ever your grateful patient,

PATRICK COX.



P. Cox, Esq.

I am happy to be able to say that many years have passed since you performed that wonderful operation, which brought ease from pain and a new lease of life to me. My case was one of about thirty years' standing. I spent a great deal of money with other doctors and obtained only temporary relief, with the result that the last state was worse than the first. I most heartily recommend the doctors and the nurses at the Invalids' Hotel and Surgical Institute and their treatment to all

suffering people. I shall ever remember with gratitude my treatment at that place.

I gained about twenty pounds of flesh in two months and regained my former complexion, to the astonishment of my friends. The Invalids' Hotel is an institution I shall ever hold dear. To the afflicted I say, There is hope for you at the home of the World's Dispensary Medical Association, in Buffalo, N. Y.

Your grateful patient, or ex-patient,

P. C.

INDIGESTION AND WEAK HEART.

DOCTOR PIERCE'S INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:

Gentlemen—It gives me pleasure to testify to the medical treatment I received from your Institution. Some years ago I suffered with stomach and heart trouble. The doctor that attended me told me I could not get well and when I told him I was going to try your treatment he laughed at me. But thanks to God and your specially prepared medicines, which I took at home, I was able to laugh at him after the first month's treatment. I continued the treatment five months and was then able to do hard work. I am now 61 years old and am working yet. I cannot say enough in praise of your Institution and I thank God that he guided me to you, and many thanks to you.



MR. A. J. PIERCE.

Yours respectfully,

ANDREW J. PIERCE.

ANAL FISTULA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:



MRS. SHAFFER.

Gentlemen—Before I took treatment of you at the Invalids' Hotel and Surgical Institute, I had suffered with fistula in ano for thirty-two years, catarrh for twenty years and eczema two years. The fistula had been burned out thirty-two times by local doctors and I had taken a great deal of medicine for the other troubles, but instead of obtaining relief grew worse steadily. The burning out of the fistula was very severe each time; after each operation I suffered intense pain for many hours; for some days afterward mucous discharges and shreds of flesh would come from the bowels at each movement. At such times I suffered almost intolerable agony. The treatment I received at the Invalids' Hotel and Surgical Institute,

where I remained four weeks, was practically painless, and did not require that I should be given chlorform or ether, and gave relief at once. When I left, the fistula was completely cured and there were no unpleasant consequences whatever. The eczema and catarrh have also disappeared and I consider that I am cured of the ailments for which I consulted you.

Yours very truly,
MRS. J. J. SHAFFER.

OPERATION FOR CURE OF PILES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had been a sufferer from piles for fifteen years; and during my brief stay at your Institution the treatment, board, and care were all that could be desired. My only regret is that I did not go to you years sooner. My health since has been very good. I have increased in weight about twenty-two pounds. If any person in this section wishes information you may refer them to me.

Respectfully,
JNO. J. McVEIGH.

PAIN IN STOMACH AND BOWELS; DIARRHEA.

Dr. Pierce's Smart-Weed Gave Relief.

DR. V. M. PIERCE, 655 Main Street, Buffalo, N. Y.

Dear Sir :— My husband has been wonderfully benefited just recently by taking Dr. Pierce's Smart-weed. He had been suffering with terrible pain in his stomach and bowels, accompanied by diarrhea. When these attacks would come he could hardly endure the pain. After trying a number of remedies to no avail, a neighbor got a bottle of Dr. Pierce's Smart-Weed from the drug store and that relieved him of the pain right away. He is now using the third bottle. It seems that nothing else will give him any relief.

Yours truly,
MRS. SALLIE KLECKNER.



MR. KLECKNER.

DISORDERED STOMACH AND LIVER.**Best Physicians Gave Him Up.**DOCTOR PIERCE, PRESIDENT WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sir—About three years ago I wrote you, expressing my thanks for the benefits I derived from the use of your remedies, but my case was a difficult one and I thought at that writing it was one which could not be entirely cured, but am happy to say that I was mistaken. I am now perfectly well and enjoy splendid health after an illness of six and one-half years. During most of that time I was as helpless as a child but am glad to say that through the kind mercies of God and the aid of your "Golden Medical Discovery," "Favorite Prescription" and "Pleasant Pellets" I am again able for the duties of life. I was a school teacher before I was taken sick and am now able to fulfill that high calling in which I so much delight, although I had but a faint hope of ever resuming such pleasures again. My stomach and liver were deranged and a severe nervous prostration ensued from which I suffered untold misery. I was both a physical and a mental wreck. Had convulsion after convulsion and spells of hysteria. My friends and the best physicians gave me up and I had but little hope of ever being well again. I tried almost everything that I knew of with but temporary relief. I thought my case had run so long and had become so chronic that a permanent cure was impossible and that I would never be well, but now I enjoy the blessing of good health, and attribute it to the use of your medicines, the care I exercised in the food I ate and the following of the laws of health which I found in your "Common Sense Medical Adviser." I highly recommend your remedies to ailing people everywhere and I go and pray for God's blessing upon the great work I feel you are doing for the help and recovery of sick humanity.

If anyone desires to write me I will gladly answer if a self-addressed stamped envelope is enclosed. With best wishes for your success, I am,

Yours truly, **JAMES D. LIVELY.****J. D. LIVELY, Esq.****SUFFERED FIVE YEARS.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen:—I had been a sufferer for five years from piles, or rather pile tumors in the rectum. I sent to Doctor Pierce for one box of his "Anodyne Pile Ointment" which cured me in thirty days.

Yours truly,

JOHN M. COLLINS.**BILIOUS SICK HEADACHE; DISORDERED STOMACH.****Found Relief in Pleasant Pellets.**WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—I like Dr. Pierce's Pleasant Pellets so well as a liver regulator that I am never without them in the house. They are the best laxative I have ever used. They relieve biliousness and bilious sick-headaches, aid digestion and are good for disordered stomach. They are the best system regulator that anyone can take. They liven up the liver when sluggish or inactive and are very mild. If taken as directed they keep one's system in such good condition that there is little need for any other medicine.

Very truly yours,

MRS. FLORENCE KING.**MRS. KING.**

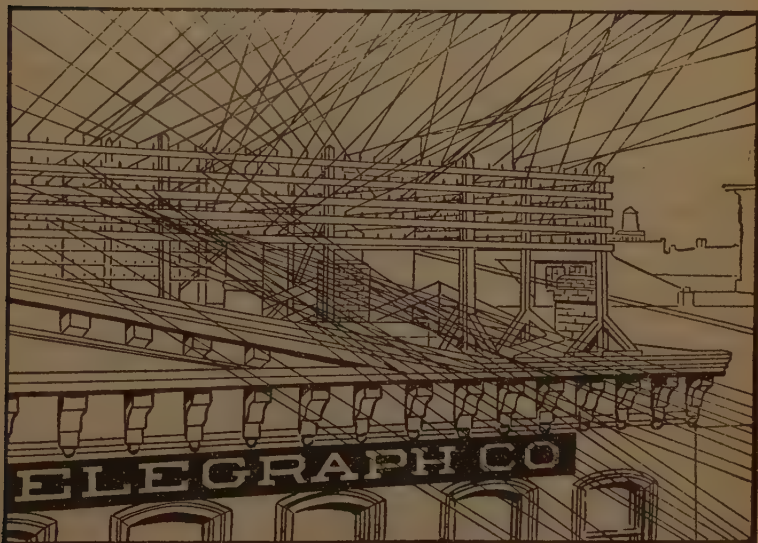
THE NERVOUS SYSTEM.

The nerves of the human body are not unlike the vast telegraph system of this continent.

The millions of nerve filaments are similar to the network of wires that keep all the cities in close sympathy and communion. The nerves have to deal with organs instead of villages, and with cells in place of individuals.

Commerce is regulated and train loads of food supplies dispatched

Fig. 2.



View on roof of Western Union Telegraph Company's Central Station, Buffalo, N. Y., showing net-work of wires leading to all parts of the country.

here and there by telegraph, while in the body the nerves send their analogue, increased blood and nourishment, where it is required.

The various organs of sense receive manifold impressions of conditions to be met, food required and dangers to be avoided and the nerves transmit these impressions telegraphically to the brain.

The structure of the brain, spinal cord and sympathetic nerves, is not unlike a gigantic and complicated galvanic battery. The number of cells in the brain and spine are more numerous, by many millions, than those supplying any telegraph system.

As the blood supplies each cell with its necessary nourishment and

removes its used up or waste materials, so does the workman give each cell of his battery fresh chemicals from time to time, and removes the used up waste.

The wires that lead from this battery to every part of the country are like the nerve filaments that go to each part of the human body and make them all—no matter how minute—perform their functions in a proper manner, and, when done, permit them to retire to rest.

With the complicated human structure, when disease takes hold, we have the same troubles that would be presented were the telegraph operators suddenly to become ill. What confusion and discord would prevail! If the sickness is severe enough to cause delirium, it would be as though madmen were at the telegraph keys dispatching trains of passenger cars which could hardly fail to bring injury and destruction to unwary travelers.

In health, we are unaware of the work of the nerves. The wheels of life move without noise. Few realize that the cavities of the heart (auricles and ventricles) are contracting steadily and alternately under the guidance of nerve cells. By this means the stream of blood, laden with nourishment, is sent to every part of the body.

Silently the stomach pours out, under nerve influence, its juices that dissolve and change parts of the food, that it may pass into the blood in condition to nourish. In a similar way, the pancreas pours out a fluid that digests the fats.

The muscular fibres of the intestines are caused to contract rhythmically and force along the bolus of digested food, so that its soluble parts may be taken up by the minute absorbent vessels to enrich the blood.

All these things of most vital importance we know least about. They go on, from day to day, without our being aware of the work done.

Let something interfere with the process, and how quickly is the sensation changed. Few there are who have not felt the agony of colic pain, due to stoppage of digestion. What suffering is greater than the sense of awful suffocation from a heart that is not acting well?

These are only familiar illustrations of a thousand and one distressing derangements and symptoms that come from exhaustion and prostration of the nervous system.

Fig. 1.



Nervous System.

NEURITIS

Neuritis is an inflammation of one or more nerves and may result from an injury or the presence of poisons in the blood. Constitutional causes are the most common, and such diseases as gout, tuberculosis and syphilis, are especially likely to cause a localized neuritis.

Alcohol, diabetes, severe anemia or debility, and poisoning by lead, arsenic or mercury, and ptomaines, also produce this disease. A rheumatic or uric-acid diathesis is often an important cause, even when the neuritis is mainly due to some local irritation or cold. This most common form specifically calls for the administration of the remedies that are contained in Dr. Pierce's Anuric Tablets; while the specific infections of other character require appropriate treatment, for which the patient must go to a physician or a hospital.

In all forms of neuritis there is a tendency to nervous debility and constitutional weakness. These must be combatted by a diet as nutritious, abundant and varied as the digestive organs will tolerate.

Next to diet comes rest. The more severe or recent the disease or injury, the more necessary is rest — sometimes absolute. When the acute symptoms begin to subside, passive exercises may be used, and very late in the disease voluntary activity may be safely ventured. The affected parts should be placed in the position of greatest ease and warmth applied, either by a hot sandbag or a bag of hot salt. Changes of temperature increase the pain, and should be avoided. Coal tar preparations, such as phenacetine, and, if absolutely necessary, opiates may be used, but only under the advice of a physician.

Massage may be used late in the disease after the severe symptoms are past.

As in all other forms of nerve troubles, change of scenery and air with agreeable recreation after the severity of the attack is passed, is advisable. In winter a patient should go to a warm, balmy climate, and in summer to the seashore or the mountains, but never to regions that are both damp and cold.

Various forms of neuritis are indicated by the locality which is affected, but they are all dependant upon a poisonous state of the system and a treatment that will overcome this condition is the one that must be depended upon for relief.

NERVOUS DEBILITY OR EXHAUSTION.

This affection, also popularly known as Nervous Prostration, or Nervous Weakness, and, to the medical profession, as Neurasthenia, or Nervous Asthenia, is becoming alarmingly prevalent.

The wear, tear and strain of modern life are concentrated upon the nervous system. The care and consequent fret, worry and labor of this age are greater than ever before known.

The result of this extreme activity, is exhaustion and weakness. Physical bankruptcy is the result of drawing incessantly upon the reserve capital of nerve force.

We extract the following from an article which recently appeared in the *New York Tribune*:

AN AGE OF NERVOUSNESS.

The stone age, the bronze age and the iron age, we have heard of; likewise of the Dark Ages, and other self-marking eras in human history. As for the present, it might with fitness be known as the age of engineering, or of electricity, both of which proud titles it has won by its achievements. Yet there is also a less roseate view to be taken of it, and another title to be given to it, based upon its too-evident frailties; namely, that it is an age of nervousness.

Such is the view taken by the famous psychologist, Dr. William Erb, of the University of Heidelberg. Nervousness, he says, meaning nervous excitement, nervous weakness, is the growing malady of the day, the physiological feature of the age. Hysteria, hypochondria and neurasthenia are increasing with fearful rapidity among both sexes. They begin in childhood, if not indeed inherited. Minds are overburdened in school, with too much teaching or misdirected teaching. The pleasures of social life follow, overexciting the already enfeebled nervous system. Business life is made up of hurry and worry and shocks and excitements. Society, science, business, art, literature, even religion, are all pervaded by a spirit of unrest, and by a competitive zeal which urges its victims on remorselessly. No man knows repose. The result is, wreckage. The pharmacopœia is overcrowded with nerve tonics, nerve stimulants, nerve sedatives. The medical profession devotes its best energies to the treatment of neuropaths. And as a people we are, or are becoming, excitable, irritable, morbid, prone to sudden collapse through snapping of the overtense chord of the nervous vitality.

Nowhere are the rush and hurry and overstrain of life more marked than in this much-achieving Nation. The comparative youth and freshness and vigor of the American people enable them to do and to endure what would be beyond the power of an older and more worn-out community. Yet there is no disguising the fact that the pace tells even here, and often tells to kill. True, all the tendencies of the age are in that direction. Inventions, discoveries, achievements of science, all add to the sum of that which is to be learned, and widen the field in which there is work to be done. What we need to learn is, however, that all these things are for man, not man for them. If knowledge has increased, we should take more time for acquiring it, knowing that, with the consequent increase of power, we shall be able to achieve as much afterward in the shorter time as our predecessors did in the longer time their briefer study afforded.

Greater ability should mean not only greater results wrought, but fuller repose as well. For it would be a sorry ending of this splendid age of learning and of labor to be known as an age of unsettled brains and shattered nerves.

A distinguished medical authority says :

"It is proved beyond any dispute that nervousness is the characteristic malady of the American Nation, growing upon them in a frightfully accelerated ratio every year, and threatening them with disasters at no distant date which the mind shrinks from contemplating."

He continues as follows: "The number of deaths from this cause is already appalling and is steadily and rapidly increasing. In some of the busy centres the tables of mortality show that the proportion of nerve deaths has multiplied more than twenty times in the last forty years, and that now the nerve deaths number more than one-fourth of all the deaths recorded. What is most shocking in these returns, this fearful loss of life occurs mainly among young people of both sexes."

"This means that the Americans are fast becoming a very short-lived people; and that if they were shut in on themselves for only a few years, without any influx of vitality by immigration, the publication of the census would send a pang of horror and alarm throughout the land."

In the latest report from a census taken for the National Committee for Mental Hygiene of New York, the number of insane in the United States in 1918 was 289,820.

The rate of increase for the United States was 24.64 per cent.

Increase in the number of insane in institutions, between 1910 and 1917, was, according to the World's Almanac, 148.47 per cent.

The enjoyment of the fruits of fortune earned at the expense of the nerve cells, is an impossibility. The quiet and harmony of the nerve centers and nervous system are gone. Rest is impossible, continuance of work only causes increased jarring and discord of that many stringed and wonderful mechanism.

Symptoms. It is well nigh impossible to give the symptoms of this disease in an orderly manner, as the affection gives rise to a thousand and one varying and oftentimes vague symptoms. The particular part of the nervous system affected, and also the cause and character of the attacks modify the symptoms. The eminent Dr. Wood says: "Nervous exhaustion may, in the beginning, affect the whole of the nervous system, or it may be at first purely local, and co-exist with lack of general nervous strength."

Spermatorrhea furnishes many examples of the local form of neurasthenia, or exhaustion, the sexual centres being primarily affected. In these cases, however, sooner or later, the whole nervous system becomes involved. So in other forms of the disorder, the exhaustion at first local, finally, if neglected, implicates the whole organism. Often, in brain exhaustion, the symptoms are at first purely local. Almost always the cause of a local neurasthenia, or exhaustion, is excessive use of the part. Thus, cerebral or brain exhaustion, or debility, is usually the result of mental overwork, while sexual asthenia, or weakness, is generally due to abuse of the sexual organs or to sexual

excesses. When to the brain fatigue, or exhaustion, are added the depressing effects of excessive anxiety, or allied emotions, the symptoms from the first are more general, and the exhaustion may effect chiefly a single function of the brain. In pure brain exhaustion, the loss of a disposition to work, is usually the first symptom, the sufferer finding that it constantly requires a more and more painful effort of the will to perform the allotted task. At first, there is loss of the power of fixing the attention, and this, by and by, is accompanied by a weakness of the memory; disturbances of sleep are frequent; various abnormal sensations in the head are complained of. In most cases there is not absolute headache, but a feeling of weight or fullness, or an indescribable distress, usually aggravated by mental effort. It is true that in some cases of very dangerous brain tire, mental labor is performed with extraordinary vigor and ease; the power of work, is, for the time, markedly increased, and even the quality of the product may be raised. The patient may glory in a wild intellectual exaltation, a sense of mental power, with an almost uncontrollable brain activity. It is probable, however, that these cases are not instances of pure neurasthenia, or brain exhaustion, but that there is active congestion of the gray matter of the brain. In these cases the disease is very prone to end in serious organic affection of the brain.

Severe brain exhaustion may be associated with good spirits, but usually there is marked depression, and this perversion of function generally goes on, if the disease be not checked, to decided melancholy.

Fig. 3.



Melancholy.

The will power, like all the other functional activities of the brain, is prone to be weakened, morbid fears may finally develop, and at last, that which was at the beginning a single brain exhaustion, may end in persistent hypochondria, followed by insanity.

Peculiar sensations are common in neurasthenia, such as chilliness, unnatural itching, a feeling as though ants or other insects were crawling on the skin. Eruptions are common. Attacks of neuralgia are often frequent and sometimes severe, being usually worse in those persons of nervous ancestry. In some cases there is a lack of proper sensation, in others an unnatural sensitiveness. There is also in many cases a peculiar tenderness over some portion of the spinal column, especially in women.

column, especially in women.

In women, with nervous disturbance of the sexual organs, there is frequently great pain felt during menstruation; in others, ovarian irritation and a so-called "irritable," or sensitive uterus, giving rise to manifold nervous and hysterical symptoms, sometimes culminating in convulsions or "fits." In not a small proportion of the uterine diseases

which are generally only locally treated by physicians, the local disease is largely and sometimes solely the expression of a general weakness of nervous origin.

SELF-ABUSE AND EXCESSES

Onanism, or masturbation, as well as sexual excesses, may produce a weakness of the nerve centers controlling the sexual functions. General neurasthenia, a nerve exhaustion, may also produce a local weakness of the sexual centers of the brain and spinal cord. This naturally results in some form of sexual weakness. Many times this results from excessive intellectual labor, even with no sexual excesses or abuses.

Many cases of nervous debility, or exhaustion, are the result of long continued malarial poisoning, diarrhea, Bright's disease, exhausting fevers or other debilitating affections. Numerous are the cases in which the patient is able to trace the origin of the malady back to an attack of influenza, or grip. An epidemic of the latter disease is sure to be followed by numerous cases of nervous prostration, or exhaustion.

CARE SHOULD BE EXERCISED

In all cases, it is necessary to make careful examinations in order to detect any obscure chronic disease which may exist. In women, nervous prostration often develops without perceptible cause at the age of puberty or at the "change of life." Overwork, especially overwork combined with worry, are fruitful causes of nervous exhaustion in both sexes. The excessive use of tea or coffee may also act as a contributing cause of nervous affections.

AN OVERWORKED NERVOUS SYSTEM

is always an exhausted nervous system. The nerve cells have been robbed of their vital forces. All the nutritive organs of the body suffer from the lack of nerve control, and the blood-vessels that supply the nerve centres are not in proper tone. Hence the supply of blood and the action of the heart are greatly interfered with. Many times, the most troublesome symptom, early in the disease, is an excessive perspiration of the hands and feet.

IMPOVERISHED OR POOR BLOOD.

A badly nourished nervous system is irritable. Many of the symptoms of weakness and lack of nutrition resemble those found in congestion, or stimulation from excess of blood. Then, too, we find sometimes that poor, thin, watery blood, not suitable for nourishment although sent in large amount to the brain, does not properly nourish that organ. There will still be brain exhaustion, as the nervous structures have lost their power of absorbing the nutrient materials from the blood which, being poor in quality, does not vitalize and strengthen the nerve centres as it should. In such cases thought is an effort and sustained mental exertion is impossible; the memory is uncertain, and the patient drowsy. Occasionally, after rest, there may be flashes of brilliancy, but generally they are brief.

DANGER OF CONTRACTING INTEMPERANCE.

The patient often learns that a small amount of wine or spirits is a temporary aid, and sometimes its habitual use is begun in this way. Stimulants only make a bad matter worse when their use is continued for any considerable length of time. The sufferer becomes more and more dependent upon them and the nervous exhaustion is much aggravated as large quantities are taken to satisfy the morbid craving that has been acquired.

Wakefulness, or insomnia, is present in many cases; in others, there is unusual drowsiness but sleep gives neither rest nor strength; often it is disturbed by dreams that exhaust the vitality and leave the patient more tired than when rest was sought.

Headache is one of the most annoying symptoms and sometimes is very persistent. It may incapacitate the patient for the ordinary duties of life. After laying down awhile and being quiet, the headache may be relieved, but recurs on attempting to go about.

Fretfulness. Sometimes, owing to the discomfort experienced, there is likely to be a change of disposition, irritability of temper, fretfulness and peevishness; a tendency to an irascibility all out of proportion to the real provocation. In many cases there is dizziness, and frequently noises in the head, ringing in the ears, spots before the eyes, twitching of the muscles, eyelids or eye muscles, and at times dimness of vision, or sudden spells when the sight is not satisfactory. At times there is a feeling of discomfort, as if the quantity of good air were not sufficient to aerate the blood, and there is sighing or a desire to sit in an open window, or a strong desire to be fanned. The pulse and temperature are usually normal, or a little below, but may rise if any local irritation exists. At times the face is flushed and at others pale. The skin may be dry, or in other cases bathed in perspiration on slight exertion or mental worry. When there is weakness of the nervous system, the disease manifests itself through

various organs. Hence, the palpitation of the heart, dyspepsia or acute attacks of indigestion, with colicky pains and heaviness after meals, with eructations or belchings of gas, or local discomfort and unnatural action affecting, at different times, almost every organ of the body. It is well known that insanity may result from the loss of sleep and constant brooding over the symptoms that the patient fails to properly understand.

TREATMENT.

In no class of diseases is greater care, scientific knowledge and skill more necessary than in the treatment of nervous affections. Almost every case is a law unto itself, and must receive careful consideration, pains-taking advice and specially prescribed treatment suited to the peculiarities of the individual. Hereditary influences, causes of the disease and constitutional peculiarities of the patient must all be taken into account.

VALUE OF EXPERIENCE.

Only through extensive experience can the medical practitioner become expert at detecting and successfully meeting, by rational, scientific and carefully adapted treatment, the many phases and complications incident to the different forms and stages of this very prevalent malady.

For more than a quarter of a century, the Specialists of the Invalids' Hotel and Surgical Institute having charge of this department of practice, have been actively engaged battling with diseases of the nervous system. As a result of this long time and vast experience, they have naturally developed and thoroughly tested many valuable remedial agencies for the relief and cure of this class of sufferers. Many of these can be successfully prescribed and used at the patients' homes without a personal consultation; while others can only be brought into use at our Institution.

TREATMENT AT HOME

Many cases, especially when the exciting cause of the malady can be easily ascertained, as in spermatorrhea from self-abuse, or sexual excesses, or in women when arising from uterine affections, can be very successfully managed and cured at home.

CONSULTATION BY LETTER

The patient has thought over his symptoms hundreds of times. The location of every discomfort has been carefully noted. These matters are stated with accuracy, common sense and good judgment when writing to us. The people are far more intelligent in these matters than physicians are generally willing to admit. A patient is often confused

while being personally examined by a physician and gives imperfect or incorrect answers. After he has left the presence of the physician, he finds that he has failed to enumerate many of the most important symptoms. In consulting by letter, the patient is not embarrassed, states the exact symptoms and carefully reads over the letter, to see if it is a complete and accurate description of his sufferings. In this way he often conveys a much better idea of the case than if present in person, and subject to the most thorough questioning and "cross-examination." The timid lady and nervous young man write just as they feel, and one reason why we have such success in treating intricate and delicate diseases, is because we have obtained such true and natural statements of the cases from these letters, many of which are perfect pen pictures of disease. As bank tellers and cashiers, who daily handle large quantities of currency, can unmistakably detect spurious money by a glance at the engraving or a touch of the paper, so the experienced physician, by his great familiarity with disease, becomes equally skilled in detecting the nature and extent of a chronic malady, from a written description of its symptoms. To aid the patient in giving a clear and intelligible history of his case we send, when requested, a very complete question blank.

EXAMINATION OF THE URINE

A careful microscopical examination and chemical analysis of the urine is a valuable aid in determining the nature of these diseases of the nervous system. This important fact is not overlooked at the Invalids' Hotel and Surgical Institute in Buffalo, N. Y., where experienced chemists are employed to make such examinations and report the result to the attending physicians. We will make a simple test of the urine free of charge (based upon the most recent scientific methods), to determine whether or not the sender is suffering from any kidney or bladder ailment; or a more thoro and complete analysis of the urine will be made for the sum of two dollars. The latter will include a most careful and scientific chemical and microscopical examination, also a bacteriological stain of the sediment, if indicated, and a complete type-written report of the analysis, with a letter of explanation, will be sent you by return mail. Persons consulting us and desiring to avail themselves of the advantages afforded by these examinations, can send a sample of their urine by express, or by mail. The bottle should be thoroughly cleansed and should contain from two to four ounces of urine first passed after arising in the morning. It should be carefully packed in saw-dust or paper and inclosed in a light wooden box. All charges must be prepaid. The patient should also write us a letter, giving a complete history of the case with age and sex, and telling us that a sample of urine is being sent. (*Do not put the letter in with the sample as in case of breakage the letter might not be readable.*) This procedure saves valuable time by directing the examination into the channels indicated and thus avoiding a lengthy series of experiments. As we are daily receiving numerous bottles of urine, every sample, to prevent confusion, should be labeled with the

patient's name. By the postal regulations, all liquids are excluded from the mails unless packed in accordance with our printed directions, which will be sent free on request being received for them, or we will furnish a mailing case, approved by the United States Post Office Department, with bottle and preservative, and send same by mail for TWO DIMES. The bottle, when received, can be filled according to directions, slipped into the case, the cover screwed on, wrapped in paper or a label pasted on, directed to Dr. Pierce's Invalids' Hotel, No. 665 Main Street, Buffalo, New York. Be sure the package has sufficient postage.

WE AIM TO CURE

not merely to palliate as is so often done by practitioners in dealing with these distressing maladies. We do not prescribe coca mixtures, opium preparations, whisky, malt extracts, so-called celery compounds or other nerve stimulants, which only spur the already weakened nervous system on as a man would urge his jaded horse to renewed efforts when the animal should be refreshed by proper food and rest. Neither have we any faith in lasting good resulting from prescribing such nerve sedatives as put the nerves to sleep and so, by simply blunting sensibility, delude the patient into the false belief that he is being benefited.

To effect a radical cure of the weakness, the nerve centers must be restored to a normal condition by improving the nutrition of the nerve cells. To do this the causes of the difficulty must be understood and any local weakness or disease of any organ, be it the liver, kidneys, lungs, stomach, rectum, bladder, or generative organs, must be understood, properly treated and overcome. The desire for alcoholic stimulants is a most common and dangerous tendency of the disease. To gratify the morbid appetite for stimulants is to do the patient lasting injury.

IMPOVERISHED BLOOD

In some cases the nervous affection is the result of an impure, or impoverished, condition of the blood. In such cases the use of Dr. Pierce's Golden Medical Discovery and Dr. Pierce's Ironic Tablets (iron- tonic) has, in the great majority of cases, resulted in immediate benefit and gradually in a permanent restoration of the nerve centers to a normal condition. The "Discovery," particularly if assisted by the use of Dr. Pierce's Pleasant Pellets, when constipation is present, unloads the liver, and their combined action tends to remove from the blood the poisons which it is the function of the liver to take from that fluid. The cells of the brain, after performing their function, throw into the blood certain poisonous materials which it is the function of the liver to remove. If this is not done, the cells become clogged, and can only be restored to a natural and healthful condition by increasing the activity of the liver. This treatment gives rise to an immediate improvement, and a continuance of the remedies results in a gradual toning up of the nervous system and relief from the unpleasant symptoms.

"FEMALE WEAKNESS"

Many women suffer from nervous prostration, or exhaustion, owing to congestion of the uterus and ovaries, caused by over-indulgence; again by overwork, the strain of too many household cares, or frequent childbirths. In these cases, the use of Dr. Pierce's Favorite Prescription is of the greatest benefit, tending to restore the uterus and ovaries to a normal condition. Its wonderful restorative effects, tonic and nerve invigorating properties, especially adapt it to the successful treatment of these cases. Digestion and assimilation of food are promoted by its use. When the liver or blood is not in healthful condition, as previously referred to, the "Golden Medical Discovery" should be used in conjunction with the "Prescription." If menstruation be scanty, Dr. Pierce's Pellets will have a beneficial influence in increasing the flow, and overcoming the headache and congestion of internal organs that is the result of scanty menstruation, especially if their use can be accompanied with full doses of Doctor Pierce's Smart-Weed.

LOCAL CAUSES

In the great majority of cases, when nervous prostration has made its appearance at intervals, with periods of prolonged good health intervening, but in which, as a rule, slight excesses, over-exertion, or the attacks of some acute disease, produces a nervous exhaustion, we have found that local derangement is the cause of the whole trouble. This cause may often be readily removed and a perfect and permanent restoration of the health will follow.

In Men, we have often found a varicocele to be the cause of nervous prostration. In others, rupture or urethral stricture, sometimes of a character so mild as hardly to give serious inconvenience, has been the cause.

In Women, ulceration of the uterus, stricture of the cervix, congestion or other diseases of the ovaries, such as cysts, abscesses, etc., inflammation of the Fallopian tubes, characterized with more or less periodical discomfort and attacks of leucorrhea, or "whites," are common causes.

In all cases in which the nervous disease depends upon local causes, we find that the relief of the local source of irritation, which tends to reduce the general health and interfere with perfect nervous tone, is all that is necessary to give the invalid a perfect restoration to health,

vigor and activity. It is like removing the burden from a tired horse that has fallen prostrate under an excessive load. The removal of the burden puts the individual under a favorable condition for the immediate restoration to health and strength, and permanent relief is only a matter of a few days' or weeks' time, with appropriate nourishment and restorative nerve tonics.

The Invalids' Hotel and Surgical Institute

SPECIALLY EQUIPPED FOR THE TREATMENT OF NERVOUS AFFECTIONS

Private institutions, well supplied with the numerous and costly

Fig. 4.



Combination Galvanic Faradic Cabinet and Couch.

aids to the work of the specialist treating nervous diseases, are now a recognized necessity. Physicians and sufferers alike appreciate this fact.

Public hospitals do not answer this purpose, owing to the fact that they are more especially intended for the alleviation of the sufferings of the poor, and the greater part of the work done is in affording relief from acute diseases and emergencies requiring surgical aid. Attention is thus detracted from delicate nervous affections and is almost wholly engrossed in caring for sufferers from other diseases and injuries. Besides, association with the charity cases that abound in such places and the evidences of suffering present on every hand, are enough to prevent all improvement in sensitive and sympathetic invalids.

Perfect equipment is an important part of the battle in the cure of nervous affections.

ELECTRICITY IN NERVOUS AFFECTIONS.

Electrical applications, to be beneficial, require, on the part of the attendant, a technical knowledge of the highest character with costly



Static Electricity Machine, in use at Invalids' Hotel.

apparatus and special appliances. There can be little doubt that electricity is convertible into nerve forces.

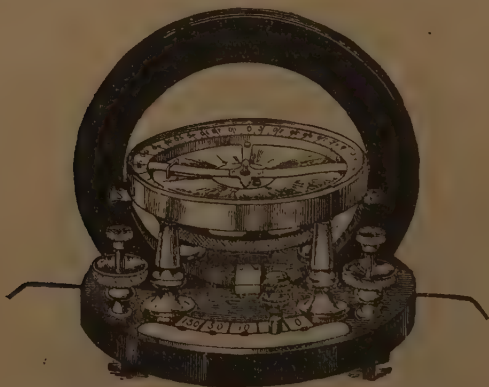
In treating cases in Doctor Pierce's Invalids Hotel and Surgical Institute located in Buffalo, N. Y., a large variety of batteries, dynamos and other electrical appliances are brought into use. These consist of cell batteries, dynamos, operated by power, static electrical machines,

high-frequency machines and other electrical apparatus, the choice of the particular machine or battery being determined by the nature of the case.

CARE AND SKILL REQUIRED

Electricity, like other powerful agencies, in order to prove remedial must be used of proper strength and in proper quantity. The potential, or strength, as well as the volume, or amount, of current has to be carefully measured for that purpose. To accomplish this, we employ an instrument called a galvanometer, or amperemeter, illustrated in Fig. 6, which indicates the exact amount of current being applied. For the want of such instruments to measure the current, physicians often fail to get beneficial results, as they are not able to administer either the

Fig. 6.



The Galvanometer, or Amperemeter.

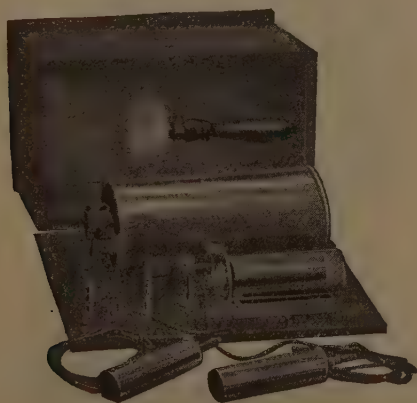
proper quantity or quality of current. Ofttimes, for like reasons, their hap-hazard way of employing this powerful agent does positive injury to the patient.

Of course, in treating cases at a distance, we cannot avail ourselves of all the great variety of apparatus brought into use at our Invalids' Hotel, yet we have some forms of machines well adapted for home use, and so simple that, by sending plain printed directions with the machines, our patients are able to use them effectively without the aid of the physician. Especially is this true in the milder forms of nervous disease, and when great exactness and nicety of application is not so important. We show in Fig. 7 and Fig. 8, two forms of such batteries which are often furnished our patients for use at their homes. Many times, after cases are under treatment here for a while, we are able to educate them in the use of the battery so that by taking one of these home with them they can continue the treatment with good results after leaving the Institution.

ORGANIC, OR ANIMAL, EXTRACTS AS REMEDIES

The experience of many leading scientists and our own specialists, in the use of extracts of nerve substance and of certain glands and organs by hypodermic or subcutaneous injection of these fluids, has, in a vast number of cases, been most gratifying to both physicians and patients. Many wonderful cures have thus been obtained. Injected subcutaneously these animal extracts are immediately assimilated and we are often able to stop, at once, the progress of disease and

Fig. 7.



Single Cell Battery For Home Use

turn the tide towards recovery. Thus the cells receive the special stimulants upon which their life and activity depend.

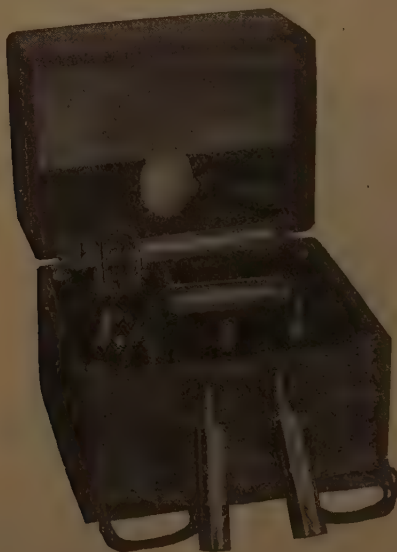
The animal extracts employed in our Institution are all scientifically and carefully produced under the direct supervision of an experienced chemist, and are believed to be superior in quality.

These extracts are made from the glands and organs of the lower animals, as from the brain, spinal cord, testicles, ovaries and some other organs and parts of bullocks, goats and other animals. That they possess properties which exert most potent tonic, or invigorating, influences upon those organs and parts of the human system corresponding to the organs and parts of the lower animals from which they have been extracted, no longer admits of doubt. In cases of partial and even complete impotency, especially in elderly men, attended with nervous exhaustion, most astonishingly favorable

results are obtained by our specialists through the administration of our extracts obtained from the nerve tissue of the spinal cord, associated with the use of the expressed juices from animal testes. We do not, however, prescribe these extracts to the exclusion of other well tested remedial agents, but do regard them, especially in the more confirmed and obstinate cases, as among our most positive curative agents.

We must confess that when first proclaimed as valuable remedial agents, we regarded the use of these extracts with a good deal of

Fig. 8.



Double Cell Battery For Home Use

skepticism, but experience is, after all, the best teacher, and we were forced, after numerous successful tests, to admit their great efficacy. We have always endeavored to keep up with the vanguard of the army of medical reform, and so took early occasion to introduce these agents into our practice.

From an article written by an eminent specialist in nervous diseases, and published in the *New York Medical Journal*, we extract the following:

"Organic beings possess the power of assimilating from the nutritious matters they absorb, the peculiar pabulum which each organ of the body demands for its development and sustenance. The brain,

for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor the liver brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and, as a consequence, disturbance of function, or even death itself, is the result.

"Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force.

"Let us suppose a person suffering from an exhausted brain, the result of excessive brain-work. Three hearty meals are eaten every day, but, no matter how judiciously the food may be arranged, the condition continues. Now, if we inject into that person's blood a concentrated extract of the brain of a healthy animal, we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear, we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish.

"That is the system. I believe it is applicable not only to the brain, but to all the other organs of the body."

The writer of the above is very probably, a little over-sanguine in his opinion that the plan of treatment will prove efficacious in all organic diseases, but certainly, from our experience, we can endorse his belief as to its great efficacy in many forms of organic weakness, especially those of the generative organs, nervous system, heart and some other parts of the body. We believe that we are placing a conservative estimate upon the remedial value of these animal juices, or extracts, when we say that they are destined to fill an important place in the curative resources of the specialist in chronic diseases.

Most cases of nervous diseases that come to us for examination and treatment, do so after having tried, without success, treatment by baths, enforced seclusion, as well as unskilfully applied electrical treatment and massage. Prolonged medication has frequently aroused digestive disorders and made the patient hate the sight of the medicine bottle. In such cases our improved methods, as applied in the Institution and also prescribed for patients at a distance, enable our specialists to give relief and effect cures with a minimum of medicine. They also enable us to treat many cases of nervous diseases heretofore regarded as almost hopeless, with a degree of success which has been very gratifying alike to physicians and patients.

HEADACHE AND NEURALGIA.

There is no ill to which flesh is heir that is the source of a greater degree of discomfort to the human race than headache. The farmer, housewife, banker, merchant and laborer seem to be equally prone to the affliction and all who suffer have a great number of days rendered uncomfortable and unhappy by the presence of this most unpleasant affection. Pain is the warning finger of disease—the threatening indication of coming trouble. In headache, we have an indication that the system is subjected to some strain or injurious impression. It may be that the eyes have been overworked or the brain unnaturally taxed; or that the nervous and physical systems have not been properly refreshed by sufficient sleep, and have used up the residue of reserve power. Many suffer from headache only after they have been subjected to sudden changes of temperature and have taken cold; others only when the bowels have become inactive, the liver torpid and the blood vitiated with retained poisons.

All appreciate the discomfort that results from this malady and earnestly seek for permanent relief.

Headaches may be divided in two classes: (1) those due to the presence of poisons in the blood, and (2) those due to irritation of various organs, as of the eyes, stomach, liver, and intestines.

Of the first form, or variety, of headache, influenza, or grip, and acute "cold in the head," are the most common causes. These give rise to most excruciating pain. There is congestion, followed by inflammation in the nasal passages and cavities communicating therewith. The membranes of these passages throw out a thin, watery, irritating discharge, which gradually thickens and becomes pus-like and offensive in character, if the disease continues.

Poisonous matters are absorbed from the affected surfaces into the blood. These poisons, circulating in the blood, produce great irritation of the nerve cells, so much so, that the severity of the attack is felt in the nervous centres, the brain and spinal cord, with pain varying from the most acute and sharp, to a dull, numb ache. The temples, eyes, neck and small of the back, are in their order, the usual locations of greatest pain. Such attacks vary in frequency and severity. One attack is usually followed by an early recurrence, which may be more or less severe, while the period of active pain varies from a few hours to several days. Such attacks leave an exhausted state of the nerve centres and general weakness of the system that often lasts for weeks, and may permanently impair the system, except such results be prevented by appropriate treatment. Every recurrence of the attack leaves the system in a worse condition, until profound nervous prostration ensues.

Malarial headache, sometimes termed "brow ague," is a common form of the malady with those residing in malarial regions. The pain rapidly develops, usually over one eye. It lasts from five to ten hours, and is often of frightful intensity.

Other forms are rheumatic and gouty headache; usually a heavy aching pain appearing on the approach of storms, but at times almost continuous, made worse by improper diet.

Uræmic headache is due to kidney disease, and alcoholic to direct irritation of the brain membranes from the use of alcoholic beverages. The latter is accompanied with much irritation of the stomach and intestines.

Headaches of a similar character result from the presence in the blood of an excess of the active principles of coffee and tea.

Overindulgence in these agents, as with alcohol, affects the nerve cells and membranes, often causing severe attacks of headache.

Nervous headache is another common affliction. This seems to arise from several causes, such as improverished blood and exhaustion from overwork of the brain. Hysterical headache is not uncommon. There is a severe kind of headache, the attacks of which appear first at early puberty and continue at intervals more or less frequent in women up to the change of life and in men to about the fortieth year.

The periodical headache is usually preceded by yawning, chilliness, languid, exhausted feelings, in others by peculiar emotional or mental activity. This is followed by unusual drowsiness, in which the night's rest is broken by dreams, and from which the patient awakes tired. Gradually, during the day, the headache develops, beginning in the eyes or bones over them. It gets more and more severe, shooting into the jaws and neck or extending to the back of the head and spine. As the pains get most severe, nausea or vomiting, often repeated, follow, in which the contents of the stomach, with mucus and bile, is ejected. The whole paroxysm lasts from five hours to two or even three days.

Neuralgic headache is a common variety; often the pain is not confined to the head, in fact neuralgia may affect almost any part of the system.

NEURALGIA.

Neuralgia is an affection of the nerves, of which the chief symptom is pain. This is of variable intensity and character. It follows the course of the affected nerve and its branches, and occurs in paroxysms, of agonizing pain with periods of intermission during which the pain may be very slight, and cause but little discomfort.

The severe pain is described as lancinating, cutting, tearing, burning, boring and pressing. Patients use different words in describing the attacks, and there is probably a difference in the character of the pain, though in a severe paroxysm one is scarcely able to make a very nice distinction. We have known cases in which the pain occurred suddenly and overwhelmed the patient's fortitude by its severity and unex-

pected onset. Between the paroxysms there may be less severe pain, which is then more frequently of an aching, burning or pricking character. In some, paroxysm after paroxysm succeed each other with almost lightening-like rapidity, and even in the intervals the pain is very intense. At another time there is only one sharp sting of pain, which attacks recur several times an hour or day, or may be absent for days or months. An extended freedom from all pain is rare in a patient very much affected. The first attacks in all forms of neuralgia are often comparatively light, and the severity of the pain gradually increases as the attacks multiply. We have frequently had patients unacquainted with anatomy, map out the distribution of a nerve very perfectly, simply describing the portion of the body in which the pain was experienced. For convenience, the neuralgia has been named with reference to the nerve most seriously attacked; lumbago to the spasms of pain affecting the small of the back; tic-douloureux is a term applied to neuralgia of the fifth nerve, that supplying the side of the face, with branches to the eyes, jaw, and teeth. Neuralgia of the testicles, ovaries, stomach, heart, are frequently met with. That affecting the large nerve supplying the thigh and leg is termed sciatica. These nerve affections often prove a most grave disorder, rendering the life of the sufferer a burden.

Treatment. Contrary to opinions frequently expressed by members of the medical profession, we find that most cases present some removable, or remediable, cause for attacks of headache and neuralgia. The temporary relief that is obtained by the use of "headache powders," various bromide combinations, caffeine and other anodyne and narcotic medicines, is sometimes necessary in order that the excruciating sufferings may be borne for the time, but as a rule such remedies only react unfavorably by interfering still further with the natural restoration of the affected organs, or protract the removal of the cause of the disease. Hence, the next attack is usually earlier in its appearance and more severe and lasting when such agents are employed.

The great majority of headaches and neuralgias are due to the presence of poisons in the blood. This may be due to affections of the blood-making, or blood-purifying organs.

For the correction of inactive blood-making glands, or a lack of purification of the blood, due to such cause, the use of Dr. Pierce's Golden Medical Discovery is particularly beneficial. It has no equal in its direct effect upon the liver, the great purifying organ of the body. Through this natural gateway, it removes from the system poisonous materials which are the waste from the nerve cells. The accumulation of these waste materials irritates the cells and causes them to cry out with pain. The blood, being properly purified by the use of "Golden Medical Discovery" supplies to the nerves, and to the nerve cells, what they crave—a healthy and rich blood that furnishes

proper nourishment. Hence the headache disappears, and the neuralgic pains are overcome.

When the liver is engorged and torpid, the intestines become overloaded with fecal matters that putrefy and give rise to gases and consequent distention. Deleterious poisons are formed and absorbed by the blood from such hardened and irritating lumps in the intestines. When the bowels are thus constipated, Dr. Pierce's Pleasant Pellets are necessary as an adjunct to the "Golden Medical Discovery." The "Pellets" remove from the intestinal canal all irritating materials and thus enhance the alterative, or blood-cleansing, action of the, "Golden Medical Discovery."

In women, when there is a nervous affection, dependent upon some unnatural state of the ovaries or uterus, and complicated with an imperfect or unnatural circulation in those parts, we have noted that most satisfactory results invariably follow the use of Dr. Pierce's Favorite Prescription. This agent improves the tone of the nervous system, and by its direct restorative tonic effects, lessens, or overcomes, any congestion of the womb or its appendages, regulates menstruation and promotes a condition of health and vigor.

In a vast experience, our specialists have thoroughly tested a great many specific remedies which we prescribe for home-treatment, sending the necessary remedies to our patients by express or mail, carefully adapting them to each individual case. Many sufferers have been, by a brief course of our home-treatment, relieved permanently from excruciating sufferings that had been a source of annoyance and loss of time for many years prior to the use of our remedies.

Our treatment is intended to effect permanent cures. We do not use those narcotics and compounds of antipyrine and other similar agents which are very depressing in their effects, and, like morphine and other preparations of opium, give only temporary relief, and interfere with the action of the heart, but we use treatment that builds up the system, removes the cause of the difficulty and restores the nervous system and all the organs of the body to a normal and healthful condition.

In some cases we advise treatment in our Institution, where we have every facility in the way of electrical appliances and many other aids that can only be employed by the personal attention of a skillful physician. These aids are more fully described under the head of nervous exhaustion and a reference is also suggested to what we have to say under the heads of paralysis and locomotor ataxia.

Headaches or neuralgic pains, due to local irritations, as uterine disease, stricture, neurotic or nerve tumors, pressure of trusses, eye strain from weakened eye muscles, or lenses that need the help of proper spectacles, require for a permanent cure the removal of the cause. Sciatic neuralgia, one of the most common and painful forms of nerve irritation, is particularly amenable to treatment by the modern means of cure used in our practice at the Invalids' Hotel.

We find, as a rule, that severe headaches and neuralgias are but the forerunners of more serious conditions, and are therefore deserving of special attention. They should be corrected as early as possible, before any organic changes have occurred.

PARALYSIS OR PALSY

LOCOMOTOR ATAXIA AND KINDRED AFFECTIONS.

Paralysis is an affection characterized by loss of muscular power or by the sense of touch, taste, sight or smell becoming impaired from injury to a nerve by accident or disease.

The disease is sometimes due to simple lack of nerve force or power. This may come from interference with the blood supply of the nerve centres, as in hysterical palsy and reflex paralysis. Frequently the power of speech is affected in this way, ability to remember and difficulty in pronunciation of certain words being the most common. Certain affections of the womb and its appendages in women, and in men, stricture of the urethra, adherent prepuce, or foreskin, with wounds and injuries, many times of nerves and organs remote from the paralyzed points, cause the loss of power.

The Causes of Paralysis are very numerous. Whatever destroys, or impairs the natural structure of nervous matter, or whatever interferes materially with the conducting power of nerve-fibre, or the generating power of the nerve-centres, will produce a paralysis, the extent of which will depend upon the amount of nervous matter affected. Thus paralysis may be due to disease of the brain arising from apoplexy; to abscess, softening, syphilitic or other tumors, or epilepsy; to disease of the spinal cord, or marrow; to disease of the structures which surround the spinal cord, producing pressure upon it; to injury or compression of a nerve, by which its conducting power is impaired; to the effects of diphtheria, hysteria, or rheumatism. It may also be due to poisoning of nervous matter with opium, lead, arsenic, or mercury; or to the retention of poisonous substances which are generated in the living body and which should pass off through the excretory organs, as the elements of the urine and bile.

Members of consumptive families are very prone to paralysis.

We also find that the disease is often the result of some nervous strain, or over excitement. The over indulgence of the passions is particularly a fruitful source of injury to the brain and spinal centres. An angry man or woman uses up more nerve energy in a few minutes than would be sufficient to serve the muscles with stimulus through hours of toil.

Infantile Paralysis. This is an infectious disease, caused by kissing, or contact with mucous from nose or throat of those who have been infected, occurring usually in children under three years of age. Usually more or less rapid and sudden in its onset, two to thirty days after infection.

Symptoms. Slight fever, possibly vomiting, diarrhoea or constipation; headache and restlessness; mucous membrane of nose and throat congested, stiff neck. In a few hours or after one or two days, paralysis follows and quickly spreads to portions of the body. It then remains stationary for from four to eight weeks, and gradual recovery begins. During this time the patient may remain stuporous. In a few weeks only those portions most seriously damaged remain paralyzed.

Treatment. This disease is so serious that, if possible, a physician should be called at once. If none can had, apply to the inside of the nose, with cotton, a solution of menthol, ten grains, in almond or sweet oil, one ounce. A brisk purge, such as one of Dr. Pierce's Pleasant Pellets, or salts. Urotropin, ten grains, in a glass of water. Let the patient drink two tablespoonfuls three times a day in warm milk. Diet: liquid, and nourishing. After the disease has subsided massage the affected parts with cod liver oil, almond oil or fresh cream. Encourage the patient to use the affected muscles. After four weeks, apply massage and Faradic Electricity daily to exercise the weak muscles, gently at first.

Hemiplegia, or paralysis on one side of the body, is generally spoken of as a "stroke of palsy." Sometimes only one extremity, the arm, is affected. Only occasionally is the face involved. In the majority of cases the mind is affected, the memory poor, the sufferer becomes melancholy, peevish and fretful.

In paralysis of the right side, there is sometimes a curious forgetfulness or misplacement of language, the patient being unable to think of words to express his thoughts. This condition is called *aphasia*. It is usually the result of some injury or disease of the brain, almost invariably the side of the brain opposite the affected half of the body. In some cases it is due to a wasting, or softening, of the brain substance, on account of insufficient nourishment, a deficient supply of blood; whilst in others, is due to just the opposite condition and excess of blood, producing rupture of some blood-vessel, transudations, and pressure.

Paraplegia, or paralysis of the lower half of the body, is the result of disease of the spinal marrow. The paralysis may occur suddenly, but, in the majority of cases, it comes on slowly and insidiously, with weakness and numbness of the feet and legs, or with tingling and a sensation resembling that produced by ants creeping on the surface of the skin. By degrees the weakness increases, until there is complete loss of both motion and sensation in the feet and legs. The lower bowels and bladder are generally involved, and as a result, the patient suffers from constipation, and retention and dribbling of the urine. Although completely paralyzed, the patient is often tormented with involuntary movements and cramps in the affected muscles.

Paraplegia may be caused by various injuries of the spinal cord; by congestion, degeneration, or hemorrhage; by pressure from thickening of the sheath of the cord, or from tumors, or from disease of the bones and cartilages of the spinal column. Paraplegia may also be produced through reflex action, by an irritation, or injury to some organ or part

of the body distant from the spinal cord; thus, irritation of the skin, or of the bowels from the presence of worms, or disease of the bladder or of the womb, may produce paraplegia.

LOCOMOTOR ATAXIA.

Locomotor ataxia, or creeping palsy, is also called progressive paralysis. This affection consists of a disease of the nervous matter in the posterior columns of the spinal cord. It usually affects first the lower part of the cord, and those portions of the nerve matter that supply the muscles of the legs. In other cases it first affects the portions of the spinal cord that supply the arms. In most cases of this disease there is an early stage in which the patient suffers from "lightning pains," as they are called. These are of a severe, stabbing, boring character, very sudden in their onset, and at times so serious as to have induced suicide. These paroxysms, in the milder form of the disease, are not so severe, and are readily controlled by anodynes. They may affect the stomach, and be mistaken for dyspepsia, or the rectum, and be taken for fissure or piles. At times they affect the bladder, when the symptoms are not unlike those of stone or cancer. In many cases we find the patient has been treated for a long period of years for rheumatism, sciatica, or neuralgia, when the real disease has been this progressive paralysis in its earlier stage. Sometimes the disease takes the form of spermatorrhea or impotency; in other cases it is manifested in weak eyes, disturbances of vision, or cross-eyes. Sooner or later, there appears the peculiar paralysis of the disease, which consists of more or less numbness of the feet and legs, and, in the later stages, of the hands and arms, sometimes of the face. As a rule, however, the patient finds difficulty in properly maintaining his balance, and in walking his movements are tottering, like a man partially intoxicated. It is difficult for him to maintain his balance and walk with his eyes closed. If the arms are affected, their movements are uncertain. In guiding a needle or in buttoning or unbuttoning the clothing, there is an inability to move the hand with rapidity and certainty, or to any portion of the face or body if the eyes be closed. The eyes and attention must be constantly directed to the motion that is about to be performed, or it is imperfectly done. The brain centres in this case supply the weakened action of the spinal cord, and the stimulus to the muscles is directed by the intelligence instead of being automatic, as in health, and due to spinal action. Still later, the voluntary movements become spasmodic or jerking. The neuralgic pains often become very distressing; there is often a sense of constriction around the limbs or body, as if they were encircled with tight cords. In extreme cases locomotion becomes impossible, the patient is unable to bring the hand to the mouth, and the speech may become impaired, articulation being difficult and imperfect. In all cases there is more or less loss of sensation in the lower limbs, the patient generally being unable to distinguish between two points and one, even when the

two are a considerable distance apart. The inability to feel the contact of the ground or floor with the feet occasions the difficulty in walking.

The Causes of this disease are somewhat obscure, but unquestionably exposure to cold and dampness and over-mental work are largely instrumental in its production. Scrofula favors its development, and syphilis has been found a frequent forerunner of this disease.

SHAKING PALSY.

Shaking Palsy, or Paralysis Agitans, is an affection dependent upon degenerative changes in the nervous centres. It is characterized by a tremulous agitation, or continual shaking, beginning in the hands, arms or head, and gradually extending itself over the entire body. The disease progresses slowly, but when far advanced the agitation is violent, and the patient swallows and masticates his food with great difficulty. In an advanced stage of the disease, the body becomes bent forward, and the chin almost touches the breast-bone. The tremor, which early in the disease only occurred during the time the patient was awake, now continues during sleep, and not infrequently the agitation becomes so violent as to waken the sufferer.

GENERAL TREATMENT OF PARALYSIS.

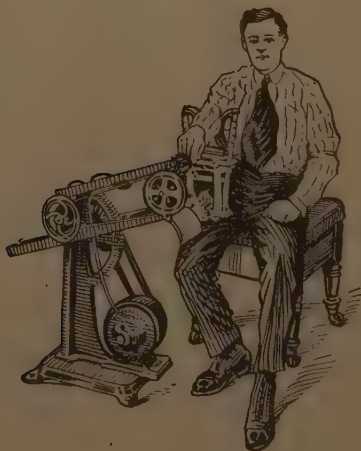
The indications of treatment for the various forms of paralysis are to remove the causes, if these can be determined, and rouse the functions of the paralyzed parts. Measures should be adopted to remedy the morbid conditions upon which this affection depends. Keep the skin clean and healthy, promote the circulation of the blood, especially in the paralyzed limbs, and encourage healthy nutrition. These ends may be best attained by the daily employment of stimulating baths and frictions upon the surface. As much regular exercise as the patient can bear without fatigue should be taken in order to favor the preservation of the appetite and strength. Care should also be taken that the bowels are evacuated regularly every day. The circulation through, and consequently the nutrition of, the palsied muscles may be aided by having a strong healthy person knead and manipulate them. These manual movements upon the surface of the body will often excite muscular sensibility, similar to that awakened by a weak Faradic current. The internal medicines should be such as to regulate the general functions of the system. The use of these remedies must be directed by the skill and experience of those who are professionally qualified to administer them.

When the patient has been able to be under our personal care at the Invalids' Hotel, we have found the employment of mechanical movements and manipulations, applied by means of a variety of machinery,

employed in this Institution, together with the use of the equalizer, or large dry cupping, or vacuum apparatus, to be of the greatest benefit. These several machines and apparatus furnish a perfect system of physical training, thus rendering valuable aid in the cure of many forms of obstinate chronic diseases. A few of these machines are shown in Figs. 1, 2, 3 and 4.

The general practitioner often endeavors to overcome the inertia of the nerve-centers and nerves by means of specific irritants, with the view of exciting the power-producing function, of compelling the weakened and disabled centers to evolve more power. By such stimulation

Fig. 1.



Massaging, or Rubbing, the Arm

and forcing, he places a burden on the weakest parts. The compulsory and ineffectual endeavor of the weak parts to act in response to such stimulation is very liable to make undue drafts upon the capacity to act, which only end in exhaustion of the little remaining power instead of its re-enforcement. Cases which were previously curable by direct and appropriate means, are thus forever placed beyond the reach of remedies. No powerful stimulating or depressing medicines are indicated in any of the various forms of the affection. In paralysis it should be our aim to improve local and general nutrition, to relieve local congestions and inflammations, to produce absorption of deposited matters, and to force an abundance of blood through palsied muscles, from which they may derive a proper supply of nutriment, and to which they may give up the products of waste. All this may be accomplished by massage, mechanical movements, regulation of the atmospheric pressure on the body, baths, and proper physical culture.

In paralysis, there is a diminution or total loss of the contractile property of the muscles to which the affected nerve fibers are distributed; consequently the capillaries and small veins are not compressed, as in health, and the blood is not forced on through them towards the heart; hence there is a backing-up of the circulation, passive congestion, and all the evils incident to that condition ensue.

Mechanical movements properly applied to the affected limbs, or parts of the body, accomplish the same results as contraction of the muscles. They compress the capillaries and veins and thus force the blood on through these vessels towards the heart. There is a constant

Fig. 2.



Massaging, or Rubbing, the Leg

pressure in the arteries, hence the flow of blood in the capillaries is always towards the veins, and, when it gets into the veins, it is prevented from flowing back by the valves in those vessels.

A proper circulation of the blood thru the disordered parts is thus effected, and, as the result, they receive an abundance of nutriment, and their waste products are promptly carried away to the excretory organs, by which they are separated from the body; the deposits of fatty matter between the muscular fibers are absorbed, and the agglutinated fibers are separated.

As proof of these statements, it has been found by experiment and observation that there is an increase of temperature in the parts subjected to this action, which *must* be due mainly to an increase in the chemico-vital changes that are superinduced by the nutritious elements of the arterial blood, particularly that element which is supplied to it by the inspired air, oxygen. All the products of waste are

increased. The skin becomes soft and moist, showing that the amount of matter eliminated by it is increased. The urine becomes more abundant, and the relative amount of urea, its most important constituent, becomes greatly increased. The amount of carbonic acid gas exhaled is increased, and further evidence in the same direction is furnished by the very marked increase in the inspiratory acts, necessitated by the increase demands for oxygen.

The local increase of the circulation incident to properly applied mechanical movements, must produce a corresponding diminution of blood in other, even in remote, regions of the body. Thus this treatment, by its revulsive effects, is capable of relieving various disorders of the head, chest, digestive organs and pelvis. Nowhere,

Fig. 3.



Foot Oscillator

however, is the effect more satisfactory than in affections of the brain and spinal cord, whether characterized by loss of power, of sensation, or by neuralgic pain. Any portion of these nerve centers suffering from congestion, will find prompt relief in mechanical vibratory movements.

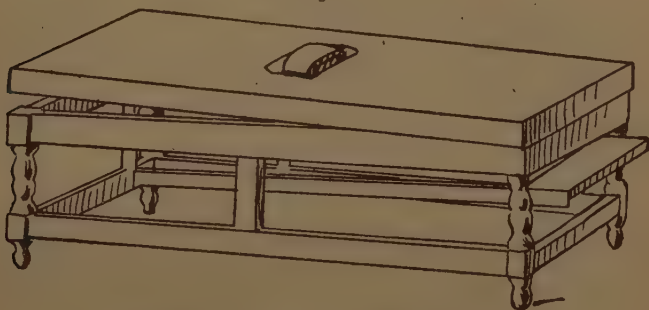
The Movement Cure which we advocate is not a "Swedish Movement Cure," nor anything akin to it. It is the application of remedial forces by complex structures, which combine a variety of mechanical powers. The inventions are solely American.

By means of this machinery, which is driven by electric power with great velocity, we are able to apply *soft, pleasant, rapid vibrating movements* over the surface of the body, and thereby increase the circulation of blood thru the parts, raise the temperature, and excite pleasant sensations. The movements can be applied by our ingeniously-devised machinery to any part of the body thru the clothing and *without*

the least exposure of the person. They can be administered in a great variety of ways, by light quick percussions, by gentle frictions, by rubbing, by oscillations, by kneadings, by circular movements, in fact, by an almost *endless variety* of reciprocating and alternating motions, which, if described, would convey to the mind of the reader but a faint conception of their remedial value.

Vibratory Motion not only establishes activity of the circulation thru the skin and muscles, but it also affects profoundly the circulation in the important and vital organs of the body; it is thus capable of overcoming torpidity or congestion of the liver, spleen, and other deepseated organs, without the depressing effects which sometimes follow the administration of powerful medicines.

Fig. 4.



Apparatus for Rubbing in a Recumbent Position

It has not been our purpose to literally explain, in detail, the methods of applying vibratory motion in the treatment of paralysis for popular experiment, since to be successful one should become an expert, not only in this mechanical treatment, but also in the diagnosis of the various forms of paralysis, as well as familiar with their causes, pathology, and remedial requirements. Thus to be successful in the treatment of paralysis and other nervous diseases, by the application of motor forces with our ingeniously-contrived machinery, the cost of which is beyond the means of most invalids, one must exercise great discretion.

Gratifying Success. Not only is vibratory motion as a remedial agent rational and philosophical, but our experience has fully demonstrated its beneficial effects in the treatment of various forms of chronic nervous diseases.

Vibratory motion is a desideratum of priceless value to those who are afflicted with diseases of the nervous system, as well as to all others who need a gentle stimulus to call forth their latent energies and improve their physical condition.

RECAPITULATION.

Motion, properly transmitted to the human system by mechanical apparatus, is transformed into other forms of force identical with vital energy, by which the ordinary processes of the system are greatly promoted.

It increases animal heat and nervous and muscular power to the normal standard.

It removes engorgement or local impediments to the circulation.

The electrical induction produced, renders it a most efficacious remedy for paralysis of all kinds.

It removes interstitial fluids and causes rapid absorption and disappearance of solid and fluid accumulations.

It is a powerful alterative, or blood-purifier, increasing oxidation and stimulating excretion.

It diminishes chronic nervous irritability and promotes sleep.

It hardens the flesh by increasing muscular development and improves digestion and nutrition.

ANIMAL JUICES, OR EXTRACTS.

The animal extract lymph compound made from the glands and organs of healthy animals, and injected into similar organs of the human body which are diseased, has proved to be in many cases a powerful recuperative tonic and cell reconstructive. Usually the diseased organ of the patient is only partly involved, but it is necessary to stop the encroachment of the disease, and this powerful cell tonic and builder acts as a preventive of further progress and causes the healthy parts to do the work of the diseased parts until, by the use of the animal extract lymph, they are gradually built up and renewed.

Science is constantly discovering new methods of healing, and not the least of modern discoveries is the use of animal extract lymph; but it must, however, be borne in mind, that although it has already produced splendid results, it is not an absolute specific; yet it must be admitted that it holds out new hope for the suffering, and that only by supplying this cell tonic to exhausted and diseased organs, thereby building up and renewing them, can we hope to permanently benefit organic diseases, which have not hitherto been greatly relieved until the discovery of this powerful cell tonic. Moreover, it is most gratifying to note that patients who have taken this treatment usually continue to improve in health after the treatment has been discontinued.

EPILEPSY ("FITS").

Epilepsy, or falling sickness, is a disease which is characterized by attacks of sudden loss of consciousness, together with convulsive movements of the muscles. The paroxysms occur at irregular intervals, the periods between them, in some cases, being only a few minutes or hours, while in others, several months elapse.

There are two classes of Epilepsy : 1st. The general form, with a convulsion that usually involves all the muscles of the body simultaneously. It begins suddenly with little or no warning, commonly with a cry or scream. The convulsion may last several minutes and is followed by a deep sleep for some hours.

2nd. The local or Jacksonian form in which the attack begins with a peculiar sensation in some particular region of the body, either in one extremity or one half of the face. This sensation is followed by a twitching of the muscles of the part. The sensation and spasm extend or advance gradually to other parts. Consciousness is not usually lost, though it may be when the spasms culminate in a general convulsion.

Great weakness generally follows in the parts convulsed, gradually passing away. When the attack begins on the right side of the face it is associated with an immediate inability to speak.

Symptoms. In the severe forms of the disease, the subject suddenly loses consciousness and falls; there is rigidity of the muscles, which causes a twitching of the face and limbs; the eyes are turned up, and there is foaming at the mouth. In the severe form of the disease, the respiration is arrested, while in the milder attacks, the breathing is difficult, slow, deep, and snoring. With the commencement of the spasm, the tongue is sometimes caught between the teeth and severely bitten. During the paroxysm, the countenance changes from a livid hue to dark purple. The convulsion continues from one to three minutes, and is followed by a deep, sighing inspiration; the subject then sinks into a deep sleep, which continues for half an hour or longer. When consciousness is first regained, the subject appears confused, stupid, and usually complains of headache. He has no recollection of what has occurred during the attack, he pronounces words indistinctly, and if he attempts to walk, he staggers like a drunken man. Sometimes, several attacks occur so closely together that there is no interval of consciousness between them.

In some cases, there are premonitory symptoms, such as giddiness, drowsiness, headache, and irritability of temper, which warn the subject of an approaching paroxysm. Occasionally, a wave of cold commencing at the feet and proceeding to the head, is experienced. This is called an *aura*. When it reaches the brain, the subject be-

comes unconscious, falls, and the convulsion commences. If the disease be allowed to proceed unchecked, it almost invariably leads to great impairment of mind, insanity, or paralysis.

Causes. The *predisposing causes* are an hereditary tendency to the disease, and everything which impairs the constitution and produces nervous prostration and irritability. Syphilis, phimosis, sexual abuses, uterine disease, and the use of alcoholic liquors are prominent predisposing causes. A few cases treated by us have been brought on by masturbation. Others are the results of injury to the head. Often fracture of the skull is followed by epileptic attacks.

The *exciting causes* include everything which disturbs the equilibrium of the nervous system. Indigestible articles of food, intestinal worms, loss of sleep, great exhaustion, grief, anger, constipation of the bowels, piles, and uterine irritations may be enumerated among such causes. Convulsions of an epileptic character may also be induced by a poisoned condition of the blood, from malaria and disease of the kidneys or liver.

Treatment. When the time of an expected paroxysm approaches, great care should be exercised that the patient be not suddenly attacked while carrying a lighted lamp, or that he does not fall in some dangerous place, strike upon a heated stove, or in some similar way inflict great injury. If there be warning symptoms before the attack, the subject should carry a vial of the *nitrite of amyl* in the pocket, and, when the premonitory symptoms are felt, two or three drops should be poured on a handkerchief and held about an inch from the nose and inhaled, until flushing is produced, or a burning sensation is felt in the face. Nitrite of amyl may also be obtained in pearls, five drops each.

During the paroxysm, the subject should be laid on the back, with the head slightly elevated, and the clothing about the neck and waist, if tight, should be loosened. If there be sufficient warning, a folded napkin, or a soft pine stick covered with a handkerchief or cloth, should be placed between the double teeth, to prevent the tongue from being bitten. During the fit, the head may be bathed with cold water.

A person who suffers from this disease should avoid everything which tends to excite the nervous system, or increase to any great extent the action of the heart. The sufferer should go to bed at

regular hours, and take at least eight hours sleep. The sleeping-room should be large and well ventilated, and the patient should lie with the head elevated. All indigestible articles of food should be avoided and the diet should consist principally of bread, vegetables, milk, and fruits. Meat should be taken but twice a day, and then in very small quantities. The use of alcoholic liquors and coffee should be avoided, and tea taken only in small quantities. The bowels should be regulated with Dr. Pierce's Pleasant Pellets and injections, if necessary. A thorough bath should be taken once or twice a week. If the attacks occur at night, the body should be sponged before going to bed with tepid water, to which should be added sufficient tincture or infusion of capsicum, or red-pepper, to render it stimulating to the skin.

The causes, if they can be determined, should be removed, and those remedies administered which relieve nervous irritability and cerebral congestion. If due to worms, the proper remedies should be given; if to phimosis, the subject should be circumcised; if to pressure on the brain, from fracture of the skull, trephining should be practiced, and the depressed bone raised. There are no *specifics* for this disease; each individual case must be treated according to the condition presented. The nostrums advertised extensively over the country as specifics for this disease, while they may, in some instances, prevent the attacks for a short time, irritate the stomach, impair digestion, lower vitality, and permanently injure the system, often rendering the disease incurable. They deceive the sufferer, leading him to think that his disease is being cured, until it progresses so far that he is beyond the reach of any treatment. As a rule, the longer the disease progresses, the more difficult it is to cure.

Epilepsy has by many physicians been regarded as incurable, but our extensive experience has convinced us that by an appropriate course of home treatment, the *vast majority* of cases can be benefited. We have discovered several new remedies, which undoubtedly exert a powerful curative influence over this disease, but it is necessary to vary the treatment so much in different cases, that it would be useless to enter further into details in this treatise.

In cases of epuepsy, due to injury, the operation is fairly saie, and in carefully selected cases that have not been allowed to run so long as to bring upon the brain a general epileptic tendency, the results of operation are good and the procedure warrantable.

CHOREA (ST. VITUS' DANCE).

This disease is an affection of the nervous system, which is characterized by spasmodic contractions of certain muscles. It may affect the entire body, although it is usually confined to the left side, or to a special group of muscles.

Symptoms. Twitchings of the muscles of the face are the most conspicuous symptoms. They are at first comparatively slight, but as the disease progresses, these spasms become more decided, and the face is twisted into various shapes and forms. The head, in some cases, is constantly jerking. It is with great difficulty that the tongue is thrust out of the mouth, and then, with a sudden jerk, it is quickly withdrawn.

These spasms or contortions, may affect the extremities in a similar manner, the hands and arms cannot be kept quiet, the gait may be unsteady, and one foot is merely dragged after the other. If one limb be forcibly held, to keep it quiet, some other limb will involuntarily move. Strange as it may appear, these contractions, which cannot be controlled by the will during wakefulness, are very much lessened or arrested by sleep.

Prior to the development of the spasmodic affection, there is usually a period in which the sufferer notes a want of appetite, languidness, with disinclination towards mental or bodily pursuits, headache, restlessness, pains in the limbs and joints, with irritable temper and weakness of memory. There are many other symptoms in special cases. As the disease develops, the patient gradually begins to exhibit an awkwardness of movement in the extremities, and objects frequently fall from the grasp. Children thus afflicted, spill their food while eating, and it becomes difficult for them to stand still. Attempts to write, sew, or draw are imperfectly performed. Such children are very often punished for supposed ill-behavior or careless habits. Later on the symptoms become more unmistakable, and the presence of the disease is readily recognized. The patient may become incapable of dressing, and the limbs and face are no longer under the control of the will. Uncontrollable movements of the fingers, hands, shrugging of the shoulders, dancing of the legs, grimaces of the face, and distortions of the body, become more or less constant. Speech and swallowing may be seriously embarrassed. Any unusual excitement of the mind or

body is apt to intensify the muscular twitchings. Severe mental applications, the reading of exciting books, the witnessing of entertainments, and excessive indulgence in sports, have to be discontinued.

The most common causes seem to be exhaustion to the nerve centres due to the appearance of the second teeth in children and the development common to the age of puberty. Other causes may be briefly mentioned as follows: rheumatic affections, constipation, a morbid state of the blood, suppression of the menstrual function, uterine difficulties, masturbation, or self-abuse, blows, injuries, fright or shock, or any cause which would give rise to nervous debility. Sometimes it is caused by obstruction in the alimentary canal, or by intestinal worms.

Treatment. The disease is one in which there is a debility of the nerve centres, complicated with a lack of assimilation and digestion. There is no affection more amenable to treatment in its early stages than this. We are daily in receipt of correspondence from sufferers, or their parents, or friends, in which the most gratifying relief has resulted from the use of Dr. Pierce's Favorite Prescription used in conjunction with Dr. Pierce's Golden Medical Discovery. These two remedies should be used alternately, the dose being suited to the age of the patient.

A large majority of cases of chorea occur in females at the period of life when the nervous system is subjected to unusual requirements. In these cases the "Favorite Prescription" effects a gradual restoration of nervous energy, and improvement in the tone of the nerve centres, and by its direct effects upon the circulation in the ovarian region, eliminates the most potent causes of debility. In young people, we usually advise a dose of three drops for each year of age. For instance, children of eight years of age should take twenty-four drops; those of twelve, thirty-six drops; those of fifteen, forty-five drops, which is about two-thirds of a teaspoonful. A similar dose of Dr. Pierce's Golden Medical Discovery should be administered, taking it before meals, and the "Prescription" after meals. Under their administration the patient will rapidly improve in health and strength; the circulation is materially bettered, the blood is purified, enriched, vitalized. The remedies effect a complete removal, from the blood, of the impurities that represent nerve waste, and as a consequence the nerve cells are properly nourished. The disease is gradually controlled, and when the favorable influences of quiet, nourishing food, with plenty of out-door air, and not too active exercise is added, the progress is most gratifying. The patients, in a few weeks, are able to control much of the spasmodic movements, and gradually their restoration to a normal condition is accomplished.

In occasional cases, where there is some complication, as rheumatism or other severe affection, complicating and preventing their recovery, special treatment is required. We are always ready to advise in regard to such cases when consulted either by mail or in person.

Children under ten years of age, with severe chorea (acute) should be under the care of the family physician.

Old Age Deferred

“The past few years have witnessed marvelous discoveries and inventions. Consider the X-ray that makes solid bodies transparent; the wireless telegraph whose messages traverse space for thousands of miles; also the **High-frequency Current**, whose application to the human body has, with other discoveries, well nigh revolutionized the healing art, resulting in the control and the relief of miseries formerly regarded as beyond hope. The High-frequency apparatus, in simple terms, is one in which the patient sits or lies within a coil or large spiral of wires, which are so charged with an electrical current that the individual within the spiral is receiving a continual bombardment of electricity from all directions; while this penetrates every tissue of the body it is entirely beyond the perception of the senses. The patient feels reposeful and quiet during and after the treatment. *

“The electric lamp held in the hand will glow with light, showing the steady influence of an electric discharge. The small blood-vessels of the body relax; the extremities and skin, usually cold, become warm, and, in some cases, slightly moist from increased perspiration. The current stimulates and increases the activity of all cells of the body. If the brain and mental powers are excited they become soothed; this calming effect produces healthy sleep; patients who have been unable to rest quietly sleep without any sleeping medicine, even though they have become accustomed to its use.

“With increasing years most people find digestive processes less active; they have indigestion after eating foods that in earlier life were readily taken care of by the stomach and intestines, vertigo or dizziness on sudden change of posture and shortness of breath on exertion, as climbing stairs or walk-

* Read at a recent meeting of a State Medical Society by one of our physicians, who has directed the Electrical treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y.

ing rapidly. These, with stiffness of the joints, poor circulation and dullness of the senses, indicate a gradual tendency to the failure of all the vital processes, which is likely to come with old age.

"The High-frequency treatment, if persisted in, gives relief and gradually overcomes the tendency to decay of the vital forces. Patients of seventy years of age, after a course of treatment, express themselves as feeling from ten to twenty years younger than when they began the treatment, and their general appearance certainly bears out the truth of their statements. The languid lose their apathy and feel able and active; the bilious obtain relief; the sluggish liver and bowels take on their normal activity and the result is improved vigor and general tone.

"The treatment has to be skilfully administered with strict attention to the individual's strength. The elimination of poisons that should be carried off through the various excretory organs is greatly increased. If the organs are weak or over-worked it is necessary to measure up their abilities by the usual physical tests known to the skilful physician, and to administer, at first, a mild dosage of High-frequency that will tend to increase the activity of the cells of the organs whose duty it is to carry away poisonous matter; as these cells gain in strength, the dose is increased until a reasonably full activity of the vital powers is obtained.

"The treatment has received the most enthusiastic approval of all who have given it a trial. Scores of individuals who have felt the gradual waning of their physical strength and mental and nervous energies have, by both word and action, shown the great benefit that they have received from this delightful form of rejuvenation."

The following cases are selected as showing the wide range of improvement that results from the use of this well nigh marvelous method of treatment:

CASE 1.—A man at the age of seventy-three years was forced to quit sedentary employment with one of the largest corporations of which he had been a most faithful employee for half a century. He was completely broken down in health and spirit, eye-sight and hearing poor, condition feeble, complained of intense heart pains in the chest on walking more than a

few rods, bilious spells, head swimming, weakness and loss of appetite.

Dosage of High-frequency daily, intervals of application five minutes, gradually increased to ten. At the end of two months' treatment reports the most satisfactory benefit. Walks to and from his home for treatment, a distance of two miles, without the slightest pain or discomfort. The attacks of neuralgia of the heart and stomach have disappeared, the mental depression and lassitude disappeared after two weeks' treatment, while physical functions thought to have been entirely lost have gradually returned.

CASE 2.—A business and literary man of exceptionally high mentality gradually losing his health, beginning with an attack of grippe and resulting in an abscess in the head. During the extreme hot summer weather he suffered from heat-stroke that resulted in partial paralysis of the left arm and loss of memory and ability to speak or recall certain words. Associated with it he had attacks of mental depression and physical weakness.

With the use of the High-frequency this patient made a very rapid improvement although for months previous his condition had been at a stand still and hope of recovery had been abandoned. The paralysis and mental confusion steadily cleared up. He was able to walk, climb hills and even run with the agility of his earlier years. So pleased was he with the effects of the treatment and the restoration of the youthful vigor of mind and body that he had a machine built for his own personal use in his home at an expense of many hundreds of dollars.

CASE 3.—A highly educated woman, of sixty years of age, unable to exercise or pursue her previously active habits because of weakness, shortness of breath and lameness had gradually increased in weight until her flesh was a burden.

Under the High-frequency she lost superfluous flesh at the rate of a pound a week, with a steady improvement in her strength and health. After two months' treatment she discontinued, feeling perfectly well, but she occasionally uses High-frequency when for any reason she becomes debilitated.

CASE 4.—A writer of exceptional ability had practically given up work because of weakness, constipation, inactive liver and very weak circulation. Arterio-sclerosis had developed. Arteries could be felt as firm, whip-cord-like tubes of varying

sizes throughout the body. Had for years a chronic catarrhal cough, growing steadily more annoying, after which headaches were experienced. There was gradual loss of ability to concentrate the mind while at work. After three months' treatment, followed by an interval of two months, patient stated: "I feared that all the improvement and benefit I experienced would be only temporary, and that possibly after stopping the High-frequency treatment my old discomforts would return but I am happy to state that such is not the case. I feel myself renewed and improved in every way, and shall regard the High-frequency as having saved me from disaster and restored me to activity, health and usefulness."

A long list of similar cases could be cited from the substantial records of two years' experience at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., showing that while this treatment must be suited to each case, it is one of the most potent remedial agents for physical decay that modern science has evolved.

In *arterio-sclerosis* common to advanced age, the walls of the arteries degenerate and become impregnated with a deposit of calcium salts and other earthy deposits, making these vessels hard and inelastic. This causes impaired circulation of the blood. The arteries thus weakened by disease are strengthened by High-frequency currents which aid in the natural regeneration by the elements of the blood and lymph and by relaxing the capillary system, relieve undue blood pressure and thus promote a return to normal elasticity. If the treatments are persisted in for some time the calcium and other deposits apparently disappear. Without doubt the High-frequency current is by far the best and most lasting treatment yet devised for the relief of symptoms due to arterio-sclerosis. For diet-list, etc., see page 425.

HIGH-FREQUENCY CURRENTS

Their effects: Increase circulation and help to expel poisonous waste. Produce ozone and increase the quantity of oxygen in the blood.

Give better capacity for work and walking.

Lessen unhealthy fat.

Relieve asthma and chronic rheumatism.

Help intestinal action, relieving constipation.

Dizziness and headache in the aged disappear.

The best known agent for the relief of hardening of the arteries in the middle aged and elderly.

The wonderfully efficient High-frequency Oscillating Currents are obtained by passing the ordinary lighting current of low voltage or strength through a transformer, which produces a high voltage—often reaching hundreds of thousands of volts.



Generator High-frequency Current.

This, in turn, is passed through another arrangement by which the current is caused to oscillate; that is, it flows alternately, first in one direction, then in the other, often several million times a second.

The one characteristic of the High-frequency Oscillating Current is its lack of power to excite the motor or sensory

nerves aside from casting a slight sensation of warmth at the point where it comes in contact with the skin. The reason for this is that the nerves respond only to certain frequencies of stimulus. The motor nerves, for instance, will react to vibrations up to 10,000 a second, but if vibrations are increased above this point contractions of muscles diminish and finally cease altogether.

At the terminals of a working High-frequency apparatus



Auto-Induction Treatment.

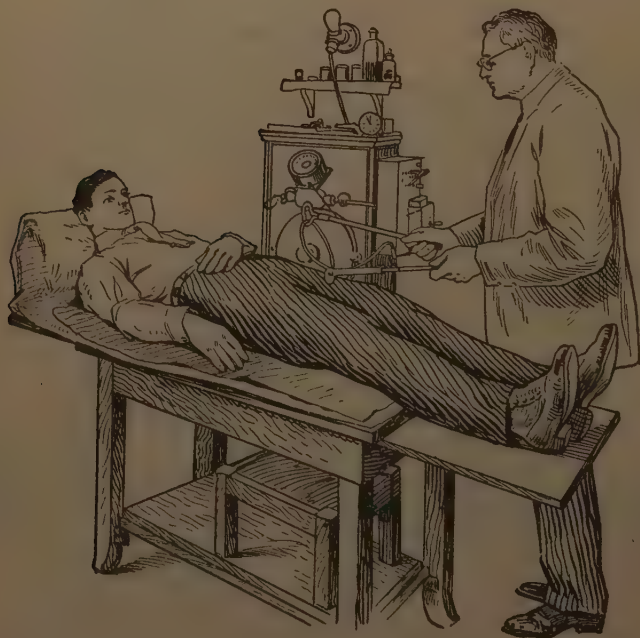
is seen a beautiful brush-like discharge of bluish color, which will leap to any object brought near it. If a plate glass one-half inch thick, or more, is interposed, the discharge will penetrate it. These electrical waves are transmitted to the air with almost the velocity of light waves which move at the rate of over 186,000 miles per second. They are made use of in sending wireless telegraphic messages. The High-frequency discharge is a rich ozone generator. The ozone is of great value in purifying the blood.

**Kills
Germs**

It has been determined experimentally that if a small wire from a High-frequency apparatus is placed in a tube containing a culture of poisonous germs and the current is applied for one-half hour the germs

will be destroyed, and the toxins or poisonous products which their growth produces will become harmless.

There are three principal forms of High-frequency currents, each named after its inventor: D'Arsonval, Tesla and



High-Frequency Machine (Wappler)

In Use at

Dr. Pierce's Invalids' Hotel,

Buffalo, N. Y.

Oudin. Each differs from the other in certain characteristics. For general effects the auto-conduction treatment is used. The patient is placed in the center of a cage, the current passing through a coil of wire which encircles the body. There is no direct electrical connection to the patient, nor is there any sensa-

tion of passing current felt; yet electrical sparks can be drawn from the skin when touched. Ozone in liberal quantities is generated and is inhaled by the patient during the treatment. Auto-condensation is obtained by placing the patient upon a specially arranged chair or a mattress, the under surface of which consists of a sheet of metal. This is connected to one terminal of the D'Arsonval High-frequency apparatus. The other terminal is held in the hands of the patient, or for local conditions is attached to a vacuum or other electrode which is applied directly to the part treated.

**Wounds and
Sores Heal**

Under the action of High-frequency currents, by auto-conduction or auto-condensation, tubercular areas produced in healthy guinea pigs heal, leaving healthy scar tissue. The application of High-frequency currents to human beings brings about favorable changes in general nutrition; there is also an increase in arterial circulation and in the number of respirations. The amount of carbon dioxide exhaled from the lungs is markedly increased, as much as 30 litres per hour, in some cases. The amount of oxygen in the blood is increased and often exceeds the normal physiologic limit of six per cent. In some cases this amounts to more than double the normal percentage. This increase is due, in part, to the inhalation of ozone. The heat production of the body is also increased, often over 100 calories per hour, leading to a greater elimination of urea (the end product of nitrogenous combustion in the tissues) and the ratio of urea to uric acid becomes normal.

**It Helps
Nutrition****Waste Poisons
Are Expelled**

Patients under treatment have exhibited a better capacity for work and walking. In the obese, weight is lost, and, strange as it may seem, the lean gain weight. The quantity of urine excreted is increased, as are, also, all of the important ingredients of the urine, as urea, nitrogen, phosphates, sulphates and chlorids.

Some observers have also reported a discharge of small urinary and biliary calculi after auto-conduction treatments. Dizziness and other distressing symptoms to which the aged are subject disappear after a few treatments. Experiments show also that children retarded in growth are stimulated physically and mentally.

Dizziness

Auto-conduction treatment builds up the body and promotes health. Apostoli claims it "a medicament for the cells and a powerful modifier of the general nutrition which it can at once promote and regulate." He has reported the treatment of 518 cases, and he has noted improvement in general health, increased energy, return of appetite, better sleep, improved digestion; he has also observed an improvement in the disposition of patients with bad tempers. He found that in chronic joint inflammation and in chronic rheumatism (the High-frequency current is contra-indicated in acute rheumatism), there was rapid improvement under auto-conduction, and that excellent results were produced in obesity, asthma, in cases of deficient blood, and in an excessive discharge of urine (diabetes).

Rheumatism

The Tesla and Oudin currents are applicable to the treatment of local diseases of the urethra, bladder, prostate, vagina, uterus, eye, ear, nose and the throat. The lymphatics and other glands are stimulated to activity, acting as a powerful resolvent and eliminative of chronic inflammatory conditions. These currents applied over the abdomen, stimulate intestinal and gastric peristalsis.

SINUSOIDAL CURRENT

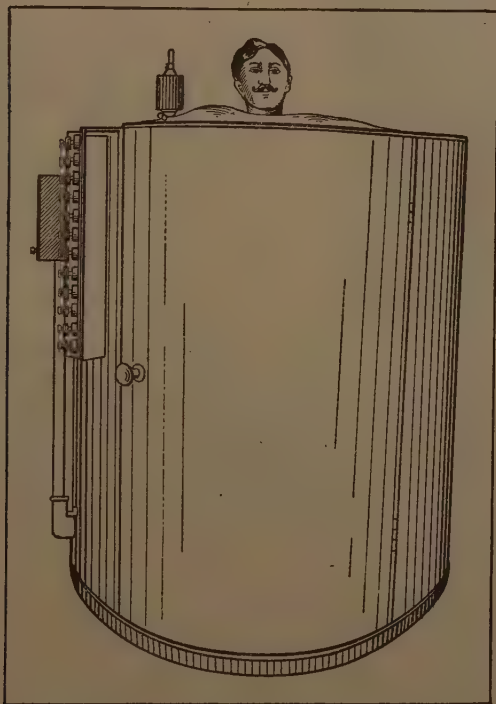
The sinusoidal current is an alternating induced current in which there is gradual rise and fall in the electro-motive force, first in one direction, then in the other, without a break in the continuity of the current. It is likened to the long swell of the ocean wave on a calm day. In visceral conditions, where vital energy is lacking, there is no more efficient agent than the sinusoidal current. Without producing pain or depressing the vitality it acts upon both the striped and the unstriped muscular tissues. It is invaluable in the treatment of disease of the stomach and of the intestines, and has relieved many obstinate cases of constipation that have resisted other methods of treatment.

In inflammation of the prostate or of the seminal vesicles and in nervous affections of the testicles, ovaries, uterus and other organs when there is loss of tone or impairment of nutri-

tion, the sinusoidal current is of the greatest value. Its properties are tonic, stimulant and soothing. This form of electrical current is indispensable to the well-equipped sanitarium.

FARADIC CURRENT

The Faradic current depends upon induction for its existence. The apparatus is made up of two principal parts, a



Our Electric Bath Cabinet Closed.

primary and a secondary coil; the primary consists of a core of soft iron wire around which is wound a comparatively few turns of coarse wire; over this is placed a tube of insulating material. Next is wound the secondary coil which consists of many turns of very fine wire. When an interrupted current passes through the primary wire an induced current is produced in the second-

ary. The secondary coil is valuable principally for its stimulating effects and is used to exercise paralytic muscles. The current from the primary coil is used for a like purpose, but

its effect is more stimulating and irritating. For the purpose of exciting function in both the sensory and the motor nerves the Faradic current is most valuable. As a result of its application the muscles are exercised without effort on the part of the patient. This current also increases nutrition of the parts treated and produces a tonic effect. It may be applied locally by attaching a cord to each of the two terminals of the coil, and at the other end of each cord connecting a sponge, which, before it is used, should be



X-ray photo showing Broken Wrist.

moistened in an alkaline solution made by dissolving a teaspoonful of common salt in a cupful of warm water.

General Faradization is produced by applying the negative, or weaker, pole to the feet which are placed in a foot-bath containing an alkaline solution. The other pole may be connected with a large electrode and passed over the body. Care should be taken to have the current very weak when the upper part of the chest is being treated; otherwise the nerves of the heart and the lungs may be acted upon and harmful effects produced. The muscles of the spine, arms and legs may be treated with stronger currents. In certain cases the Faradic current may be combined with the Galvanic current to good advantage.

CONTINUOUS CURRENTS. GALVANIC ELECTRICITY

These currents are taken direct from a series of Galvanic cells, or from a direct current used for lighting purposes. Electromotive force and the current strength can be regulated to meet the requirements of the case treated. According to the method

of application, we can produce a stimulating, restorative, or a quieting effect. The conductors, or wires, leading from the battery are dissimilar in polarity. At the positive pole a current passing through water liberates oxygen and causes an acid reaction. This pole contracts the blood-vessels and is used to stop bleeding. It has a quieting effect. It will reduce swelling

and when strong

enough acts like an

acid caustic, burning

the tissues. The

negative pole when

placed in water

liberates hydrogen

and causes an alka-

line reaction. It

dilates the blood-

vessels, increasing

bleeding. It has the

effect of stimulating

the sensory nerves.

It is an alkaline caus-

tic and liquefies or

disintegrates tissues

into which it is in-

troduced.

Galvanism



Women's Department, Invalids' Hotel,

Buffalo, N. Y.

These are the facts that indicate to us which pole should be used in the treatment of disease. We know that in inflammation there is an excess of alkalinity of the tissues, therefore we use the positive pole to reduce such inflammation to neutralize the alkalinity; if the negative pole should be used, the inflammation would be increased instead of diminished and the pain would increase in consequence.

A Galvanic current is also employed to produce electrolysis,

or the destruction of tissue, and is useful in the treatment of fibroid tumors of the womb, moles, removal of hair, etc.

CATAPHORESIS

This is another property of electricity by which we are able to force medicinal substances into the tissues. Here also the phy-



Artificial Sun Bath.

sician must know which pole is required for the drug he wishes to use; for instance, negative elements as iodine, bromine, and chlorine, have an affinity for the positive pole, but are repelled by the negative pole. In order, therefore, to drive these elements into the tissues, it is necessary to use the negative pole so that they will be driven toward the positive.

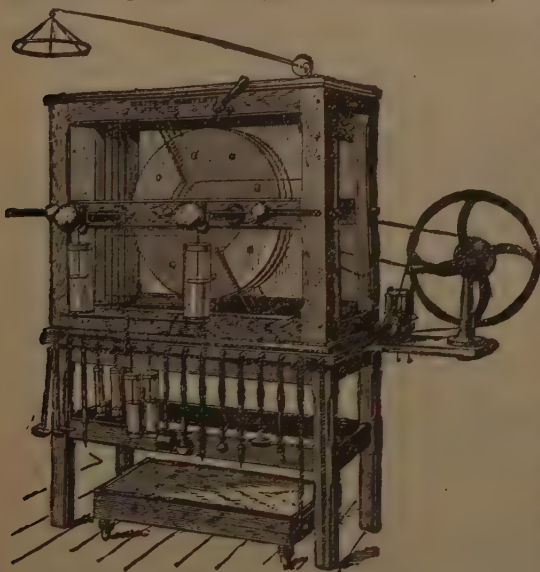
If the positive pole were used the negative elements would remain in the sponge or electrode and the treatment would be ineffective.

Metallic cataphoresis, or the introduction of various metals, as zinc, silver, copper, etc., into the tissues, is of great service

in destroying malignant or other tumors. In this case also the terminal should be connected to the negative or positive pole, according to the result desired.

STATIC ELECTRICITY OR FRANKLINIZATION

This is a manifestation of electrical energy induced from revolving glass plates (Toepler Holtz machine). It belongs to the



Original Type, Franklin or Static Electricity Machine.

high-potential class of currents. Negative and positive charges are given off from the terminals, each having its special use. Several varieties of currents can be induced, as static, surging, wave currents, positive insulation, negative insulation and static induced currents. All of these are of value to the physician, some being used

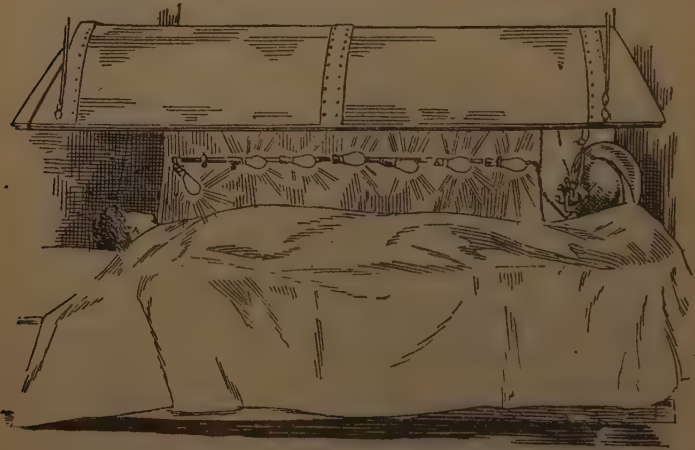
in nervous prostration and other nervous conditions, others in hyperæmia, neuritis, and also for quieting effects. The direct sparks from the machine are useful in paralysis and in the massaging of the nerves and muscles.

It is of the greatest importance that physicians should understand the proper use of these currents, for on this knowledge depends the success or failure of their efforts to cure. Injurious results may often ensue and symptoms may be aggravated if the negative pole is used when the positive is indicated, or if a strong current is applied when a mild one is required. The physician should have a thorough knowledge of the application of electricity before attempting to use it in the treatment of disease.

PHOTOTHERAPY

OR TREATMENT WITH CHEMICAL LIGHT RAYS

The curative properties of light have been known for ages. White light is a combination of colors—the principal violet colors of the spectrum—red, orange, yellow, blue, indigo and



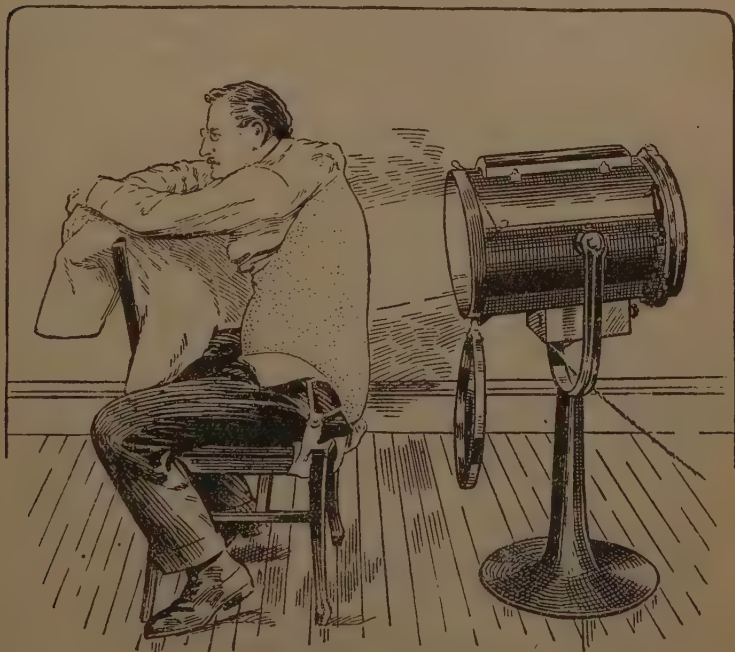
Bath Actinic Rays.

violet, and the invisible ultra-red and ultra-violet. The rays are further divided into heat, luminous and chemic rays. Heat rays are for the most part invisible to the eye, but they powerfully affect the nerves of the skin. The luminous rays are found in the yellow portion, and the chemic in the violet and ultra-violet portions of the spectrum.

Light has a most potent effect upon animal and vegetable life. The turning of leaves and flowers towards the sun is a common phenomenon. Plant growth seems to be influenced more by the yellow rays, flowering by the violet and ultra-violet rays, while the red rays increase aroma. The light rays act upon the nerves of the skin and eyes, stimulating reflex action which acts upon the entire metabolism; the sweat glands become more active, the blood-vessels of the skin dilate and the circulation of the blood is accelerated through the whole body. Over-exposure results in burning of the skin and over-

stimulation of the nerves, producing symptoms of sun-stroke. The chemic rays are exerted principally in their effects upon the nervous system.

In the treatment of disease we have recourse to the use of artificial light—the electric arc and the incandescent. We make



The Electric Arc-lamp.

use of the arc in a large marine search-light. In the application of the arc light the rays are projected upon a reflecting mirror and the field of light produced is concentrated upon the part of the body which is placed about ten or fifteen feet from the apparatus. The arc light possesses properties nearly identical with those of the rays of the sun, which is rich in chemic effects. In the incandescent light the heat rays predominate. Application to the spine stimulates the nerves which are given off from the spinal cord to the various organs of the body. It relieves pain and inflammatory conditions. If the light is concentrated upon the bronchial tubes and the lungs, in cases of

bronchitis, painful cough and difficult breathing are often relieved by a single exposure.

In the treatment of ulcers, septic conditions, eczema and other skin diseases, the use of the arc light properly applied is often beneficial. Chronic joint inflammations, whether from rheumatism or from injury or infection, frequently respond to the treatment. Applied over the abdomen the arc light is also used to control hemorrhage and a single application will



One of the Rooms for Electrical Treatment—Invalids' Hotel.

often stop hemorrhages from the bowels and other organs, and, at the same time, relieve pain. By placing a screen of blue glass between the arc and the patient the heat rays are filtered out. The blue light stimulates metabolism, is very penetrating and has a strong anodyne (relief of pain), and absorbent effect, and it also is anæsthetic to the skin. It is useful in tuberculous diseases of any part of the body, causes the blood-vessels to contract, and is soothing to the nerves. We produce red light by interposing red glass. The red light is efficient in certain skin diseases, and it is claimed that if a patient suffering with small-pox is kept in a room in which the light is filtered through red glass, the pus formation is interrupted or prevented, and that, in consequence, there is no pitting of the skin, and the severity

and duration of the disease are mitigated. Eczema of the face, sunburn and freckles have been cured by exposure to the sunlight, the affected parts being covered with a red veil.

THE X-RAYS

The X-rays were discovered in 1895, by Dr. Roentgen. They are produced by driving an electrical current at great velocity through a special form of glass tube from which the air has

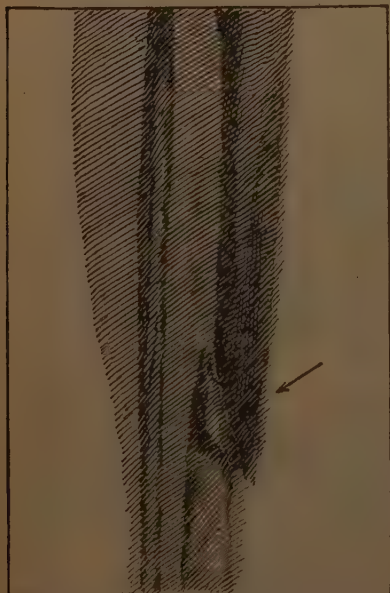


Chest Examination by means of the Fluoroscope at the Invalids' Hotel.

been reduced to the millionth part of an atmosphere. The cathode stream is directed against a metal projection set at an angle in the center of the tube. This sets up pulsations in the luminiferous ether which are propagated in lines indicated by a hemisphere. The vibrations are probably many times more rapid than those of light.

The X-rays are invisible to the unaided eye. They possess the property of causing brilliant luminosity of fluorescent chemic substances. They also act upon the silver salts in a manner similar to light. If we wish to see the bones of the hands, for instance, the hand is placed upon the back of a

screen made of fluorescent salts and is held between the active tube and the eye. The experiment being best conducted in a darkened room. The bones are then distinctly seen. If a photograph is desired, the hand is placed upon a photographic plate inclosed in a dark envelope. After the exposure the plate is developed in the usual way. We then have a permanent record of the shadow produced. Bones are most distinctly seen, solid organs less distinctly. The hollow organs, as the stomach, intestines, and urinary bladder are shown in distinct outline



X-ray Photo showing Broken Bone
of the Leg.

after the ingestion or injection of bismuth salts. Any foreign body—as a needle in the flesh or a stone in the bladder—is located without the necessity of painful examination.

The X-ray is known to have curative properties. It is almost a specific in certain forms of skin diseases. When it is applied to inoperable cancerous growths, hemorrhage and pain frequently disappear and often the growth itself, especially if it is located externally. Intermittent exposures produce, if properly applied, stimulating effects; if carried further, inflammation, and finally, destructive action upon the tissues.

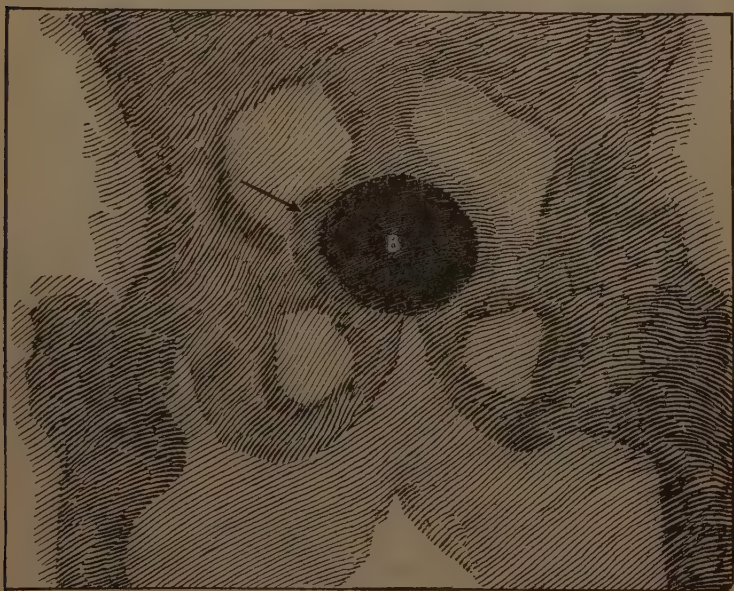
It is known that the X-ray will ionize a gas through which it passes, and the air ionized will remain so for some time. This is shown by the fact that it will discharge an electrified body which has not been affected by the X-ray.

EXERCISE AND MASSAGE

In the treatment of many diseased conditions great good is accomplished by the use of active or passive exercises judiciously applied.

The physicians of the Invalids' Hotel have for years made

use of the Swedish system of movements, which consists of various mechanical appliances designed to manipulate different parts of the body without the least exertion on the part of the patient. In this way fatigue which is always more or less evident after active exercise is practically avoided and the result is that tone is imparted to the muscles exercised, and by the quickened circulation the nutrition of the part is improved. We also have in use electrical vibratory appliances, by the aid of which we are able to stimulate the tissues treated, relieve congestion of the



X-Ray Photograph of a Stone in the Bladder—Taken at Invalids' Hotel.

veins and lymph, promote absorption of exudations and infiltrations and break up adhesions in tendons, sheaths and joints.

Massage consists of systematic therapeutic manipulation of the issues of the body and also manipulation of the joints. The movements include stroking, pinching, rubbing or friction, and percussion. Massage is an aid to the circulation of blood and lymph. Good results are accomplished by trained masseurs, but we have found the untiring, easily regulated, mechanical massage superior in most cases.

A New Use for High-frequency Currents

ARRHENIUS AND HIS ELECTRIFIED CHILDREN.

It is reported in the daily press that Prof. Svante Arrhenius, the noted physicist and Nobel prize winner, has completed in Stockholm a series of experiments proving that the Electrical



MECHANICAL TREATMENT ROOM, INVALIDS HOTEL.

High-frequency Current is a marvelous aid to the physical and mental development of school children, "nearly doubling their growth and greatly improving their learning." We are informed that two groups of children of practically similar age, physique and mentality were placed in two rooms precisely alike, except that in one were wires carrying High-frequency, alternating currents made known by d'Arsonval. Neither the teachers nor the pupils, it is reported, were aware of their exposure to the "magnetic influence."

At the end of six months, runs the report, the electrically charged children had grown an average of 51 millimeters (2 inches); while the children not thus charged averaged in growth 31 millimeters (1.16 inches). As to psychism, taking twenty as the standard of perfection, the magnetized children

reached in their studies an average of 18.4, while fifteen attained a perfect mark. On the other hand, the unmagnetized children reached an average of 15, only nine attained perfect marks. It would seem also that length of days is to be assured these fortunately electrified children; and the newspaper here referred



ELECTRO-MECHANICAL MASSAGE APPARATUS.

to begins with impressive quotations from Scripture as to living forever and other quotations more or less relevant to this assurance. The magnetized teachers are said to have attested that their faculties were quickened and their powers of endurance increased. "The experiments undoubtedly will be enlarged; and if the results are verified it is thought that the system will be adopted immediately to aid backward children."

It may be assumed then, that metabolism (that process by which oxygen and foodstuffs are converted into bodily tissue) is affected by the d'Arsonval current; and that a faulty metabolism, may be corrected through the elimination brought about by this current and in other ways not as yet perfectly comprehended. So that in a number of diseased states—in "disorders of metabolism," in certain skin lesions, in some nervous disorders, in malignant growths, in diabetes, gout, rheumatism, arterio-sclerosis and so forth—the High-frequency current is an "indicated" measure.—*Scientific American*.

CURES DISEASE OF ARTERIES.

High-frequency Current Said to Have Given Remarkable Results.

PARIS.—A remarkable confirmation of the value of “darsonvalisation” or the treatment of certain diseases by the High-frequency current was given before the Academy of Medicine this week by Professor Letulle, director of the Boucicaut Hospital.

Professor Letulle was charged by the academy to investigate thoroughly and report on the communication of Doctor Moutier, who for years had made a special study of the electrical treatment of arteries affected by too much or too little elasticity. The result is, says Professor Letulle, that he has definitely succeeded in curing diseased arteries and restoring a normal circulation to the affected parts.

Advancing from this point, Doctor Moutier proceeded to supply “darsonvalisation” to several apparently widely different diseases, all of which, however, were due to radial hypotension. He found that treatment of a multitude of heart troubles and affections of the liver, kidneys, varicose veins and diseases of women revealed remarkable results when dealt with in this way.

“Even neurasthenia and tuberculosis,” said Prof. Letulle, “have been greatly benefited by Dr. Moutier with this treatment. Having made it my business to follow for several years Dr. Moutier’s researches at the Boucicaut Hospital, and having checked all the results, I feel it my duty to render public homage to him. All the facts repeated by him to the Academy are correct, and all the conclusions which follow from them are justified.”

The Academy unanimously passed a vote of thanks to Dr. Moutier for his communication as being of most important value to medical science.—*The Boston Sunday Herald.*

TESTIMONIALS.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they are now, coming, as they do, from well known, intelligent and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

Out of thousands of similar letters received from former patrons, we have selected these few at random, and have to regret that we can find room only for this comparatively small number in this volume.

"ALMOST A WRECK."

Kidneys in Bad Condition, Indigestion, Weak Back, Spells of Despondency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—The home-treatment which you sent me was for trouble of about twelve years' standing.

When I first commenced treatment I was almost a wreck. Was nervous; kidneys were in bad condition; had indigestion; back was weak and I had spells of despondency.

At the end of four months I find myself entirely free from all these troubles. Have felt better the past month than for the same length of time in several years.

I thank you for the interest you have taken in my case and for the good results obtained.

Yours respectfully,

HARRY C. BENNETT.



H. C. BENNETT, Esq.

NERVOUSNESS. HEADACHE.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I feel it my duty to write you in regard to the benefit derived from the use of your great medicine, "Golden Medical Discovery."

I had been in declining health for years; the symptoms were nervousness and slight headache. I had been treated by several physicians but without success. Last year a friend recommended Dr. Pierce's Golden Medical Discovery to me, and I began using it at once. After taking six bottles I felt like a new man. I am in good health now and owe it entirely to your "Discovery." I heartily recommend this remedy to suffering humanity.

You are at liberty to use this as a testimonial if you wish.

Yours very truly,

W. L. BELL.

W. L. BELL, Esq.



GENERAL BREAK-DOWN.

DOCTOR PIERCE, Buffalo, N. Y.:



MRS. LINN.

Dear Sir—My case was a complication of diseases—a general break-down, lasting three years. I placed myself under the treatment of four different physicians. At last, giving up all hope of recovery at home, I was making arrangements to go to a Sanitarium in Michigan for special treatment. One of your small books with blank enclosed was handed to me; I filled out the blank, and thought I would try rather than leave home and little ones. "Happy decision;" two months' special treatment and I was well and happy, and to-day I have the very best of health.

Yours respectfully,

MRS. LOMA LINN.

KIND WORDS.WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having spent four weeks in your Institution, it gives me great pleasure to state that during that time I received the most courteous and faithful care and treatment, and I bear willing testimony to the skill and ability of the surgeons and the faithful care of the nurses.

Wishing you continued success, I recommend all persons suffering from chronic diseases to give you a trial.

Respectfully yours,

JOHN HURST.



J. HURST, Esq.

DESPONDENT.WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I pen these few lines as a new being. Four months ago I was a despondent person—was a wreck. But now I am a new being and owe thanks to you which I can never repay.

I recommend your Institution not as *one* of the best but as *the best* of its kind in America, and will do everything I possibly can for you in the future.

Yours,

EUGENE KNOFF.



E. KNOFF, Esq.

A GRATEFUL PATIENT'S WORDS.

DR. V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—One year ago I went to your Invalids' Hotel and Surgical Institute for treatment. I was there for two weeks only, business making it impossible for me to remain longer, but before those two weeks expired I felt improved. After returning home I took three months' treatment through mail from you and now I believe that I am well. I feel better than I have ever felt, am stronger, and can endure more physical labor. Everything that could possibly be done for my comfort and pleasure while I was in your hospital was done, and I will always be indebted to you for the good which you have done for me, and hope that in some way I may help bring to you others who need your help.

Very sincerely,

W. I. MCGHEE.



MR. MCGHEE.

SUFFERED WITH TERRIBLE HEADACHES.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I have used your medicines in my family for twenty years, and wish to recommend them to anyone who should read this. Twenty years ago I had sick headaches. Half my time I was in bed with a terrible headache. A neighbor recommended Doctor Pierce's Golden Medical Discovery and the "Pleasant Pellets" in connection with it. My husband got me six bottles of "Discovery" for five dollars, also six vials of the "Pellets." I took them and have never had headache since. My daughter had sick headaches last year and I got her three bottles of the "Golden Medical Discovery" and she is not troubled with them any more.

I have used your medicines in my family for twenty years for different ailments, and wish to say to the public that I have found them beneficial, in fact, I do not think they are equaled in any way. I think they are all that is claimed for them.

Yours sincerely,

MRS. JENNIE L. HUGHES.

NERVOUS PROSTRATION, SLEEPLESSNESS, DYSPEPSIA AND RHEUMATISM.

Mr. J. T. TOWNSEND, consulted us by letter. He was suffering from great nervous prostration; could not walk without tottering: was troubled greatly with inability to sleep; poor appetite; did not relish food; suffered much pain and stiffness in the joints; was overcome with heat working on a thresher, followed by persistent nausea, confusion of ideas, his memory being very defective.

After taking a single course of treatment, the medicines being sent by express, he writes as follows: "The medicine you sent me lasted me five weeks, and proved very beneficial indeed. I believe it, under God, was the means of saving me from a premature grave. When I received the medicine, I had just gotten rid of an attack of bilious fever, which left me in a deplorable condition. I was very weak and nervous, but my improvement commenced with the first dose of your medicine, so by the time my medicine was out I felt better than I had for years, and now have no indication of a return of my trouble." A month later he writes: "I continue to enjoy the most perfect health. Every organ of my body, and every faculty of my mind, is in splendid condition, which makes life worth living. I have gained twenty-one pounds since I have been able to attend to business. Please accept my profound thanks for your promptness in sending me my medicines."



J. T. TOWNSEND, Esq.

SHATTERED CONSTITUTION.**Successfully Treated at the Invalids' Hotel.****WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:****E. HERRMANN, ESQ.**

Gentlemen—It is now about two years since I caught a severe cold the effect of which almost shattered my constitution. I had pains in region of heart, could not eat anything without causing a severe spell of nervousness. I would eat my supper and retire, only to get up again before midnight and either pace the floor until exhausted or rush to the doctor for relief which he could not give me. I was unable to work, and kept on going from one doctor to another and getting worse all the time. About this time I heard of the many cures effected at Dr. Pierce's Institute, and thinking I would try *once* more, I came to you. I will never forget the day I spoke to your consulting physician, who in turn sent me to your examining physicians. I had never before had such an examination. I then weighed about 119 pounds; after being treated by you about two months I began to improve. I can eat anything now without distress and my nervous feeling is gone. I now weigh 148 pounds and work every day. I cannot find words to express my thanks for the good you have done me, and I hope you will print this letter so that

anybody who may have the same sickness as I had will know where to get cured.

Thanking you for the good you have done me, and hoping God will spare you to keep up the good work, I am,

Yours most respectfully,

EMIL HERRMANN.

BLINDING HEADACHES AND EXTREME NERVOUSNESS.**"Cannot Say Enough in Praise of the Treatment."****DOCTOR PIERCE, Buffalo, N. Y.:**

Dear Sir—For several years I suffered from extreme nervousness; was troubled with blinding headaches, burning on top of head and dizziness. In fact, I was completely broken down in health. I doctored a great deal with different physicians without permanent benefit. Finally I wrote Dr. Pierce describing my case. He advised the use of his "Golden Medical Discovery" and "Favorite Prescription" which helped me at once. I cannot say enough in praise of the treatment in my case and never miss an opportunity to recommend Dr. Pierce's medicines to a suffering friend.

Sincerely yours,

MRS. IDA CORFMAN.

"RUN-DOWN IN HEALTH."

Nervousness, Neuralgia Pains, Numbness of Limbs, Loss of Flesh, Weak Heart, Sleeplessness.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I take great pleasure in writing you in regard to the great benefit I received from using Dr. Pierce's medicines, namely, "Golden Medical Discovery" and "Favorite Prescription."

About two years ago I became greatly run-down in health and could get no relief. My chief symptoms being great nervousness, neuralgia pains all over the body, numbness of the limbs, loss of flesh, weak heart and sleeplessness. I took in all thirty bottles of the two kinds of medicines mentioned above and now feel as well as ever I did. I recommended your medicines to a friend of mine and she is also receiving great benefit from them.

Yours truly,

MRS. E. D. JORDAN.

MRS. JORDAN.



RUNDOWN, NERVOUS, WEAK.**"Felt Mean all Over."****DR. V. M. PIERCE, Buffalo, N. Y.****MRS. D. DUFF.**

Dear Sir:—Dr. Pierce's medicines have given me wonderful help and I take pleasure in giving them my recommendation as I know they are very safe and reliable remedies. I was all run-down in health, my nerves gave way and I got very weak, my back gave me a lot of trouble and I was feeling mean all over. I took two bottles of "Favorite Prescription" and found it very beneficial; it built me up in health, strengthened my nerves and relieved me of the distress in my back. Also I had a bronchial cough, my bronchial tubes being weak, became sore and inflamed, my throat and chest hurt me, but after taking a few bottles of Dr. Pierce's Golden Medical Discovery the cough stopped, and I was not annoyed by any more distress in my throat. There are no medicines that can equal Dr. Pierce's for the ailments for which they are recommended.

Yours very truly,

MRS. DAN DUFF.**NERVOUS BREAKDOWN****WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.**

Gentlemen:—At middle life I had a nervous breakdown, could not do my housework and I was discouraged. Finally I decided to try Dr. Pierce's remedies. I took the "Favorite Prescription" because I had heard it recommended so highly as a woman's medicine. I also took the "Anuric Tablets" for my kidneys, and was feeling much better in a short time. I continued to improve steadily.

Very truly yours,

MRS. L. M. TURNER.**"A NERVOUS WRECK."****WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.**

Gentlemen:—I wish to state that my system was all run-down and I was a nervous wreck—thought I was going to have a nervous break-down. I wrote to the World's Dispensary Medical Association for treatment. After taking their special home-treatment for several months I can now say that I am as well as ever.

Yours very truly,

O. N. SLATER.**MR. O. N. SLATER.**



MRS. EDWARD POLLITT.

NERVOUS, COULD NOT SLEEP.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—About twenty years ago I was clear down and out physically, my nerves were completely gone and I could not sleep or eat. I was able to sit up only about an hour at a time. I doctored for six months but instead of getting better I grew worse. A neighbor persuaded me to take Dr. Pierce's medicines. I took the "Favorite Prescription," "Golden Medical Discovery" and "Pleasant Pellets" and in three months I was back to normal health, my nerves were good, I could eat and sleep well and do all my own work.

Respectfully yours,

MRS. EDWARD POLLITT.

KIND WORDS.**TO WHOM IT MAY CONCERN:**

A year ago I was sick and "all in" from overwork and poisonous gases that I had breathed into my lungs while working in a shop. I couldn't sleep and could hardly eat anything. I tried four different doctors but they did me no good. One day I found one of Doctor Pierce's little books so wrote to the World's Dispensary Medical Association and started taking their special home-treatment. After taking it for a month I went to work—never felt better in my life. These people are not quacks—they do not pretend to cure everything, but I don't believe there was ever a case brought to them that they failed to help.

Anyone wishing to write to me regarding this statement may do so.

OLIVER J. WHEELER.

RUNDOWN, NERVOUS, NO APPETITE.

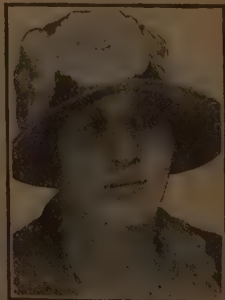
"Was Just a Physical Wreck."

DR. V. M. PIERCE, Buffalo, N. Y.

Dear Sir:—Dr. Pierce's Golden Medical Discovery has no equal as a building tonic and blood medicine. It did me a world of good. I was rundown in health in every way. I was weak and nervous, suffered loss of appetite, my blood was thin and in an impoverished condition. My bronchials and lungs were sore and congested and I had a chronic cough which broke my rest at night. I was just a physical wreck when I began the "Golden Medical Discovery," but it took away all soreness, my cough left me and I gained back my general health and strength.

Very sincerely yours,

MRS. KATHERINE KEELER.



MRS. KEELER.

NERVOUS DEBILITY, STOMACH AND HEART TROUBLE.

F. M. LUCERO, Esq.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I cannot find words to describe the great merit of your “Golden Medical Discovery” but I heartily recommend it to my friends.

I have been suffering from nervous debility, stomach trouble and heart trouble for about four years. I took only four bottles of your famous “Golden Medical Discovery” and some of the “Pleasant Pellets” and they cured me perfectly. Many others are taking “Discovery” now because they know what it did for me. I have no words to express my sincere thanks to Dr. Pierce for being the inventor of a remedy to restore health.

Yours very truly,

FRANCISCO M. LUCERO.

NEURALGIA.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I was taken sick with a fever, and later I had a spell with my stomach. The doctor said it was neuralgia, and all during the winter I would have a spell every few days till I would nearly die. It would go all over me. In February I got a bottle of Dr. Pierce's Favorite Prescription and a vial of the “Pleasant Pellets” and while I was using the medicine thought I would write to you and see what would be best for me to take. You kindly answered my letter and told me to use “Golden Medical Discovery;” so we got a bottle and I took it and now I can say *I am well again. Two bottles of Dr. Pierce's medicine cured me*, and I know if it had not been for your medicine I should have been dead. Didn't know when I commenced using your medicine whether I would live from one day to the next, but I haven't been troubled with neuralgia since I took your medicine.

I think the “Pellets” are great little things.

Respectfully yours,

MRS. ETTA F. COOK.

NERVOUS AND DESPONDENT.

DOCTOR PIERCE, Buffalo, N. Y.:

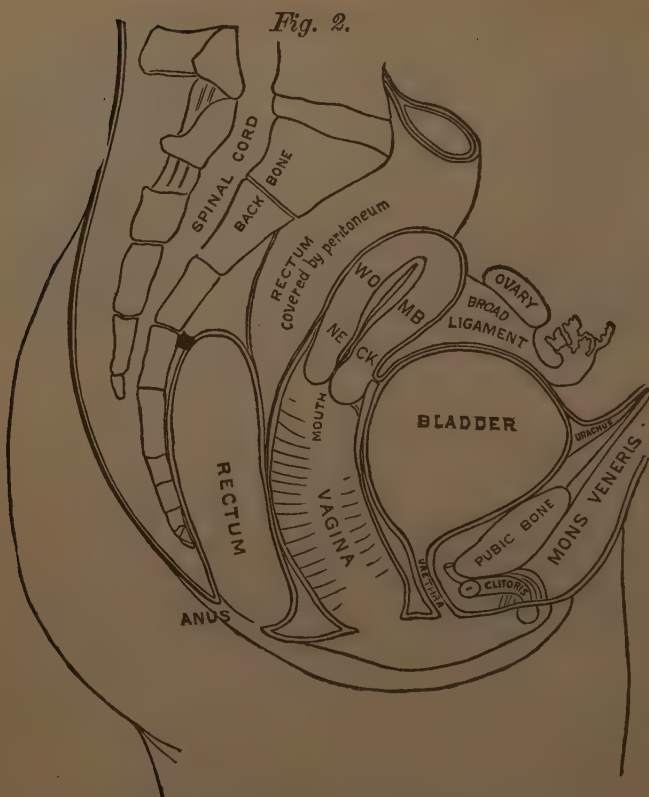
Dear Doctor—It has been some time since I received your kind letter asking about my health. I will gladly say that I am in the best of health, and cheerfully recommend your medicines to any lady who suffers with any nervous trouble as I did. I was in a miserable condition—would feel sad and despondent by spells which would last for days, afraid to be left alone and was impatient and irritable. Could not enjoy anything and got so bad that I feared I was losing my mind. Would have been glad to die if I had to live in such misery the rest of my life, but, thanks to Dr. Pierce's Favorite Prescription and “Golden Medical Discovery” I am cured now—am a happy, healthy woman. I cannot praise Dr. Pierce and his medicines too highly.

Yours truly,

MRS. DORA MORRISON.



MRS. MORRISON.



OUTLINE OF THE FEMALE URINARY AND GENERATIVE ORGANS.

The above cut is introduced here to assist in conveying a correct idea of the Urinary and Generative Organs of Woman, their form and relative positions, together with the bones, muscles and other tissues forming the cavity of the pelvis in which the organs rest, and by which they are protected. By dividing that portion of the body directly through the middle from before backward, we first cut through the cushion of fat (mons veneris) covering the pubic bone, then in succession the bone, bladder, womb, vagina, rectum, front half of spine, spinal marrow, rear half of spine, and lastly the muscles and skin. Just underneath the bone in front is revealed that sensitive organ, the clitoris, a fac-simile of the male organ in miniature, the head of which protrudes, while the body is covered with tissue, but is readily traced with the finger. Further back is the urethra, or water passage, which is one and a half inches long. Next is the vagina. When closed, its mucous lining is folded in upon itself, and requires dilating in order to be cleansed and to apply remedies. On the vagina rests the hollow, pear-shaped womb, the small-end of which protrudes into the vagina, and in which is a small opening, leading through the neck into the cavity of the organ. On either side of the womb, near its top, are the Fallopian tubes leading to the ovaries, situated between the womb and hip bones. At every menstruation these organs throw off a germ-cell, which passes through the Fallopian tubes into the uterine cavity.



The Door of Life.

The fear of pain and the dangers of childbirth fill many a woman's breast with dismay. In the olden days of leeches and witchcraft, it was considered sacrilegious to lessen the pains of labor. Latterly, anæsthetics have been used at the time of parturition, and now people are beginning to find out that pain and danger can be almost wholly avoided.

Proper preparation during gestation will

make both as rare as they used to be common. There is no reason why childbirth should be fraught with danger and distress. It is a perfectly natural function, and should be performed in a natural way without undue suffering. Nature never intended that women should be tortured when doing the one thing which makes them wholly womanly. The perversion of nature's laws has brought this suffering about, and a return to right living will stop it.

Nine out of ten women are troubled more or less by weakness and diseases peculiar to their sex. It is so because they do not take proper care of themselves—because they neglect little ills and little precautions. A woman in perfectly hearty health goes through her time of trial with comparative ease. The thing to do then, is to make all pregnant women healthy—to strengthen them generally and locally. The medicine and tonic to do it with is Dr. Pierce's Favorite Prescription.

It is a powerful invigorant and nervine. It soothes and strengthens the nerves and acts directly on the feminine organism in a way which fits it for the proper and regular performance of all its functions at all times.

Taken during gestation it robs childbirth of its dangers to both mother and child, by preparing the system for delivery, thereby short-

ening labor, lessening pain and abbreviating the period of confinement. The Favorite Prescription also promotes the secretion of an abundance of nourishment for the child, if taken after confinement, besides building up the mother's strength and making her recovery more perfect.

ABORTION. (MISCARRIAGE.)

The term *abortion* is used to denote the premature expulsion of the foetus. If the expulsion takes place within four months after impregnation, it is termed *abortion*; if between the fourth and seventh month, *miscarriage*; if after the seventh month, but before the completion of the full period of gestation, *premature labor*.

Abortion may be due to those agents which act directly upon the uterus and cause the expulsion of the foetus; to those which occasion the death of the foetus, thereby effecting its ejection; and it may be *criminal*, that is, produced intentionally by direct agencies intended for that purpose.

Symptoms. The premonitory symptoms are pain in the loins and lower part of the back, a dull pain in the abdomen and thighs, nausea, chills, and palpitation. The membranes and blood-vessels of the uterus become lacerated, causing profuse hemorrhage. The discharge of blood from the vagina is sometimes attended with excessive pain.

The Causes which act directly upon the uterus to produce abortion may be violent exercise, lifting, accidents, or injuries from blows or falls. Nervous susceptibilities, a plethoric condition of the system, anæmia, exhaustive discharges, use of improper food, uterine displacements, congestion caused by excessive sexual excitement, general debility or muscular irritability, which is sometimes so great as to produce contractility of the uterus before the term of pregnancy is completed, inflammation of the cervix, ulcerations of the uterus, or any previously existing disease may produce abortion. When it has once taken place, it is apt to recur at about the same time in subsequent pregnancies.

The death of the foetus may be occasioned by a diseased condition of the embryo, anion, or placenta, and also by convulsions or peritoneal inflammation.

Criminal Abortion is secretly practiced by women who desire to rid themselves of the evidence of immorality, and by those in wedlock who wish to avoid the care and responsibility of rearing offspring. Statistics show that it is very prevalent, undermining the health of women and corrupting the morals of society. We cannot pass over this subject in silence. Those who frustrate the processes of nature by violating the laws of life incur just penalties. All the functions of life and body are vitally concerned in reproduction. Any infraction of the Divine law, "Thou shalt not kill," is inevitably followed by punishment. The obligations to nature cannot be evaded without inevitable

penal effects. Furthermore, all such transgressors carry with them the consciousness of guilt and the feeling of secret woe.

"O God ! that horrid, horrid dream
Besets me now awake !
Again, again, with dizzy brain,
The human life I take,
And my red right hand grows raging hot,
Like Cranmer's at the stake."—HOOD.

What shall we say concerning abortionists, men and women who are willing to engage in the murder of innocents for pay? True, there may be circumstances in which it is not right to continue in the pregnant condition, such as when the children of an unfortunate marriage are idiots, or the pelvis of the woman is so deformed that she cannot bear a living child. All such cases should be submitted to the *family* physician, who ought to be made acquainted with all the circumstances and facts relating to the case, when he can summon other physicians for counsel, and their deliberations may determine the propriety or necessity of bringing on an abortion.

Parties have written to us and others have made personal application under circumstances when it might have been right for their *family physician* to have induced abortion. We wish to have it distinctly understood that we will not under any circumstances prescribe medicines or perform any operation to relieve women of pregnancy.

Mechanical means are resorted to by abortionists, and many women produce abortion upon themselves. It always terminates in lasting injury and sometimes in speedy death. Certain medicines will sometimes produce abortion but they are very unsafe. An opinion is very prevalent that if abortion be produced before the movements of the foetus are felt, there is no crime committed. It should be remembered that *life begins with conception*, and, at whatever period of pregnancy abortion is committed, *life is destroyed*. Whoever disobeys the Divine injunction cannot escape his own consciousness of the deed, and the anguish and bitter remorse which ever after disturb the soul.

Treatment. In threatening abortion, there is pain in the back or lower part of the abdomen, and later some flow of blood. The first object is to obtain perfect rest and quiet, and assume the recumbent position. By lying down, the blood will be more easily diverted to the surface of the body. Gallic acid, in doses of five grains every two or three hours, is often a valuable agent to arrest the hemorrhage, but opium in some form should be relied upon principally. A Dover's powder, ten grains, may be administered, to assist in determining the blood to the surface and extremities of the body and to allay irritation. The room should be cool, the patient should lie on a hard bed, and all company should be avoided, for excitement favors abortion. If the flow of blood equals a gill in amount, there is little hope of preventing abortion, and the case should be entrusted to a physician.

WOMAN AND HER DISEASES.

OVARIAN AND UTERINE TUMORS.

Ovarian Tumors generally consist of one or more cysts or sacs, developed within the ovary, and filled with a fluid, or semi-fluid matter, which is formed in their interior. The cysts vary in size, in some instances being not larger than a pea, while in others they are capable of containing many quarts of fluid. In one case operated upon at the Invalids' Hotel and Surgical Institute, thirty-five pints of fluid were taken from three cysts.

The effect of ovarian tumors on the duration of life is shown by the statistic of Stafford Lee. Of 123 cases, nearly a third died within a year, more than one-half within two years from the first development of reliable symptoms, while only seventeen lived for nine years or upwards.

Fibroid Tumors of the uterus are composed of fibrous tissue, identical in structure with that of the uterine walls. They are met with in all sizes, from that of a small shot to that of a mass capable of filling the entire cavity of the abdomen. Cases are on record in which these tumors have attained the weight of seventy pounds. They generally terminate life by prostration and debility produced by pressure on one or more of the organs essential to life; or by anæmia and debility, following severe hemorrhages.

Polypi or Polypoid Tumors of the uterus are of three kinds: cystic, mucous and fibrous. They vary greatly in size, sometimes being as large as a tea-cup; and their point of attachment may be extensive or consist only of a small pedicle. The cystic and mucous varieties may spring from any portion of the mucous surface of the uterus, but they are more frequently met with growing from the mucous membrane lining the cervical canal, and pendent from the mouth of the womb, while the fibrous variety generally grows from the sub-mucous tissue at or near the fundus, or upper portion, of the uterus.

The most prominent symptoms of polypoid growths are hemorrhage (which is almost invariably present) leucorrhœa, pain, backache and a sense of weight and dragging in the pelvis.

The best method of treatment, and, in fact, the only effectual one, is removal with the *écraseur*, polypus forceps, or galvano-cautery. The operation is usually attended with little or no pain.

For more than thirty-five years the physicians of the Invalids' Hotel and Surgical Institute in Buffalo, N. Y., have been successfully treating tumors by electricity and X-rays. Many cases kept under observation for twenty years show no evidence of growth or trouble. The frequent application of the electricity thru the tumors stops the hemorrhages and with the X-rays used externally the growth is destroyed. (For the treatment of fibroid tumors with X-rays see page 981.)

Although we successfully treat many cases in this way it is not suitable in all, and many conditions may arise in connection with these growths which render operation absolutely essential for a complete cure. When skilfully performed it is one not to be dreaded, as the results are universally successful. Our surgeons, after years of experience, have so perfected their methods that most of the patients are able to return home in good health after a stay of twenty, or at the most thirty days in the Sanitarium.

CASE I.—A married woman, aged 38. Had never given birth to a child. About four years before coming under our observation she discovered a small bunch, as she expressed it, in the left ovarian region, which gradually increased in size until, when she consulted us, it caused considerable pain in the region of the liver from pressure, and interfered with respiration. Her general health was becoming much impaired. She stated that she had consulted a prominent gynecologist in this city, who had told her that the attachments of the tumor were so extensive that ovariectomy (removal with the knife) was out of the question, and that, therefore, he could only give her palliative treatment. This unfavorable prognosis only added mental anguish and despair to her physical suffering. On examination, we found a large multilocular cystic tumor, represented by Fig. 3, with very thick walls, extending from the left ovarian region obliquely upwards

Fig. 3.



The shape and position of the Tumor are shown by the dotted line.

and to the right, so that it pressed more upon the short ribs on the right side than it did upon the left, but which filled the entire cavity of the abdomen. The attachments, as the doctor whom she had previously consulted had stated, were so extensive that its removal with the knife could not be thought of. We were not disposed, however, to give the case up as hopeless. We told her that we would do what we could for her, but as to what the result of our treatment would be, we could not definitely say. She placed her case in our

hands, and we resorted to the above described treatment. She was treated two and three times per week for more than two months, at the end of which time, the tumor had decreased in size fully two-thirds. It has ever since remained stationary, and has given her no trouble or inconvenience whatever. It is now seventeen years since we treated her.

The very large Ovarian Tumors are not amenable to non-surgical means. The walls of their cysts become so thin and weak, while the pressure of the fluid from within is so great, that sudden and spontaneous rupture is liable to occur at any time and produce death. Removal by a cutting operation is necessary in such cases. Fortunately this procedure, as skilfully modified and perfected by experience, has, in the hands of our surgeons, proven free from the dangers and hazard common to Ovariectomy. This is due to skilful operation and to the fact that in our Institution the sanitary arrangements are as perfect as it is possible to make them. Everything is at hand in the way of instruments and appliances likely to be required, and the entire procedure is conducted upon the principles of perfect cleanliness and antisepsis, which obviate the risk of inflammation and blood-poisoning.

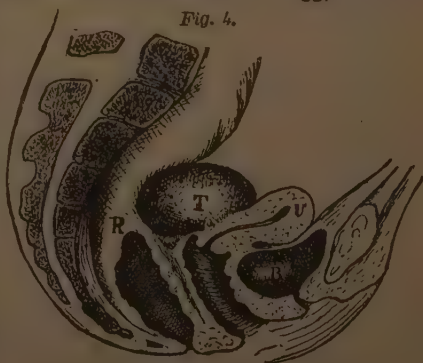
Furthermore, our nurses have had such training and experience that wants are anticipated, and details are looked after so vigilantly that the convalescence is rapid, as well as being comfortable and safe.

We invite correspondence by any one afflicted with troubles of this kind, and our surgeons will be very glad to answer any questions and give advice when requested to do so.

The dangers due to the presence of these tumors are far greater than the slight risks of removal by the skilful methods employed by our surgeons.

Owing to a change made in the anæsthetic used, the painful and persistent vomiting that often follows abdominal operations

CASE II.—A young lady of 23; unmarried. About six months previous to consulting us she discovered a tumor of about the size of an egg, in the region of the left ovary, which had been gradually increasing in size. On examination, we found the morbid growth to be about the size of a quart bowl, and evidently composed of several cysts with thick walls. She experienced no pain, and but slight inconvenience from its presence, but she was in great mental distress. She was an only daughter, and her mother had died a few years before from the shock and hemorrhage resulting from an operation for the removal of a large ovarian tumor, performed by the late lamented Dr. * * * of New York. The same course was pursued in this case, and at the end of six weeks' treatment, the tumor was reduced to the size of an egg, and has remained so ever since, now more than thirteen years.



U, Uterus. B, Bladder. R, Rectum. T, Tumor.

is prevented. This does away with the greatest of all the dangers attendant upon the operation, and favors speedy recovery. Food is administered in the form of artificially digested and concentrated nourishment and is readily retained. The strength is thus rapidly restored, and the healing process hastened.

It is generally supposed that the size of the opening made through the abdominal walls is large, proportionate to the size of these tumors. This is an error. Even in the largest cystic tumors where the development is immense, only a small incision is made—simply sufficient to bring the walls of the tumor in view and admit, perhaps, two or three fingers. The tumor is then rapidly emptied of its contents by means of a powerful suction apparatus. Adhesions, if any exist, are then carefully broken up, and hemorrhage therefrom prevented; after which the

CASE III.—A woman, 37 years of age; married six years; no children. She had suffered for eight years from profuse menstruation and dysmenorrhœa, with a membranous discharge, and, for several months before consulting us, she had experienced severe pain and a soreness in the pelvic organs. Her bowels were obstinately constipated, it being next to impossible for her to have an evacuation, and she possessed a pale and careworn countenance. Upon examination, we discovered a hard, incompressible tumor, represented in Fig. 4, attached to the posterior wall of the uterus, which caused anteversion of the womb, and which pressed upon the rectum so as to produce great obstruction. She was treated by means of electrolysis, with injections into the substance of the growth, for one month, at the end of which she returned home, with the tumor reduced from the size of a pint bowl to the size of an egg, and her health greatly improved. After going home the tumor continued to grow less until, at the end of a few months, her home physicians could detect no trace of it, and she has remained well since, for more than ten years.

Fig. 5.



U, Uterus. T, Tumor.

CASE IV.—A lady aged 36; married twelve years; no children. She complained of severe pain in the back and a frequent desire to urinate. Menstruation was profuse, and the bowels were constipated. On examination, we found an inter-mural fibroid tumor, represented in Fig. 5, developed in the anterior wall of the uterus, and pressing upon the bladder. The womb was enlarged, measuring three inches in depth, and was slightly anteverted. A month's treatment, with electrolysis and injections into the tumor, arrested the growth and diminished the size more than one-half, and caused the unpleasant symptoms to disappear.

CASE V.—A married lady, 28 years of age; had borne no children, but had had several abortions, brought about intentionally. Six months before consulting us, a tumor, about the size of an egg, was discovered by her home physician. It grew steadily from the time of its discovery until, when we made an examination, it was found to be about the size of an ordinary teacup. It was developed in the posterior wall of the womb, as represented in Fig. 6. Three weeks' treatment reduced the tumor two thirds.

large sac of the tumor, which when collapsed is like a thin bag, is readily drawn out through the small opening in the abdomen. The small pedicle or cord-like mass of vessels that supplies the tumor is then carefully treated after a plan devised and invented by ourselves, which effectually prevents any bleeding, and, at the same time, does not leave any irritating substance, such as burned and charred flesh, rubber, silk, or any other unabsorbable material, within the abdomen. The parts are left unbruised and without any poisonous germs in contact.

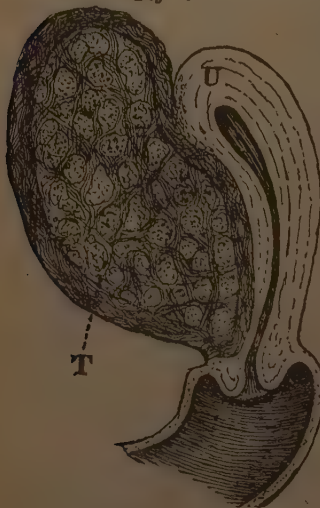
Our surgeons have met with phenomenal success in removing Ovarian Tumors, by the operation of Ovariectomy.

A few of the many cases that have been under our care are herewith reported and illustrated. Each case is typical of a class.

CASE VI.—A widow lady, aged 52. She was examined ten years ago by two of the most distinguished physicians of New Haven, Conn., who pronounced her sufferings due to cancer of the uterus. She was then suffering from repeated hemorrhages, and other symptoms. They gave her palliative treatment, and told her that to interfere with

the morbid growth would only shorten her life, and that by leaving it alone she might live several years. By and by the hemorrhages ceased and she passed the change of life, but she continued to be troubled with a sensation of fullness in the pelvis, pains in the back, and frequent headaches. On examination we found not a cancer, but a large polypus, as represented in Fig. 7, which had caused all the trouble. It was quickly removed without pain, and her health restored. Thus, through an error of diagnosis, she was made to suffer physically and mentally for ten long years of her life, in constant dread of a horrible death.

Fig. 6.



U Uterus. T, Tumor.

Fig. 7.



U, Uterus. P, Polypus.

LACERATIONS.

During labor the canal through which the head and shoulders must pass becomes greatly distended. At the commencement of childbirth the opening of the neck of the womb may be an inch or three inches in circumference. Later when a head three inches in diameter is passing the opening may be ten or twelve inches. At the lower opening the same stretching is necessary to permit the birth. If the parts are normal and elastic and the labor is natural there is nothing to fear for the parts soon return to their original form and condition. In cases, however, where the parts are inelastic, or the head is unusually large, or there is malformation of the mother, or malposition of the foetus, the neck of the womb may tear or the perineum may become lacerated, or both may be injured. If the perineum is lacerated it should be attended to immediately after delivery while the parts are still numb, for then the sides of the rent fit each other and no treatment other than stitching is necessary.

The late Dr. Emmet became famous through his discoveries of the benefits resulting from the proper treatment of these injuries. A few extracts from his writings will present the whole subject in a concise way to our readers:

“The lacerations or abrasions [from childbirth] may heal in the course of a short period, under the reparative process set up in the uterus after labor. On the other hand, under the influence of a general febrile condition, or of local inflammation, and often from the operation of causes which it is impossible to appreciate, these lesions, whether slight or severe, do not heal, and thus a confirmed inflammatory ulceration of the cervix uteri becomes established.

“As the laceration often occurs in consequence of rapid labor, or from the use of forceps and traction, the vaginal outlet is frequently left patulous. Owing to a want of the proper support, and to the enlargement of the uterus afterwards, prolapse must occur, and the organ sinks to the floor of the pelvis, when it frequently takes some degree of retroversion. The vagina cannot now regain its natural size, on account of the prolapse, and it becomes still more dilated as the uterus continues to advance like a wedge towards the vaginal outlet.

“So long as the cellulitis remains to any extent, the woman will complain of an inability to walk or stand with comfort; there will be a continual backache, with pains across the lower portions of the abdomen and down the limbs, and sometimes with irritability of the bladder. Menstruation will be profuse

at first, afterwards irregular, as to both time and quantity, and not seldom it will be absent for months. The leucorrhœal discharge will be profuse and constant, with the result, sooner or later, of establishing a profound anæmia, from the long-continued loss of the needed constituents of the blood. There is often an inability to concentrate the attention, and I have seen many instances where it was necessary to read over several times an ordinary newspaper paragraph before the subject could be understood. Headache, in some form, is seldom absent, but that situated at the back of the head, and particularly in the nape of the neck, is most common. The disposition becomes greatly changed for the worse, mountains are made from molehills, as the woman becomes irritable and fitful in temper. Insomnia is often a distressing symptom. The fits of depression become more frequent, while the constant dread of a loss of mind hangs with terror over many, to be realized in not a few instances by becoming inmates of a lunatic asylum.

“Until recently, this condition of laceration was universally mistaken for ulceration, and sometimes for the early stages of epithelioma, and for corroding ulcer of the uterus. To heal this ‘ulceration’ would long baffle every mode of treatment, or, if any improvement took place in the patient’s condition after a protracted rest in the recumbent position, a relapse would follow again and again, with every attempt at exercise. Such a case passed from one physician to another, until eventually the leucorrhœa ceased, and the profuse menstruation diminished as the surfaces, from the repeated application of caustics or the cautery, became cicatricial in character. Nevertheless, a woman in this condition gradually became a confirmed invalid, while the hypertrophy of the uterus remained, and from impairment of her general health the nervous element became most prominent.

“Eventually, when nature has been left to aid herself, the woman will frequently cease to menstruate at rather an early period in life, and will then gradually recover her health. Unfortunately, however, when the disease has existed so long as to induce a condition of profound anæmia, there remains no power in reserve to aid in bringing about a reaction and phthisis becomes developed. Then, again, a woman in robust health may be able so far to repair the damage as to give birth to a number of children after the injury. She will manage to hold her position in good health for years, notwithstanding frequent menstrual hemorrhages and a wasting leucorrhœa between the

pregnancies. But, finally, the change of life is completed, when epithelioma (cancer) may spring into existence from the seat of the old injury, as a product of perverted nutrition.

Dr. W. S. Playfair, states: " In regard to this difficulty, it is perhaps somewhat humiliating for us to admit that we have all been misunderstanding these cases, and it is not very easy to convince sceptics of the fact who have not accustomed themselves to the only method of examination by which it can be appreciated.

" The importance of this injury cannot be exaggerated, since at least one-half of the ailments among those who have borne children are to be attributed to laceration of the cervix."

" Dr. Goodell, of Philadelphia, has reported one hundred and thirteen cases operated on by him. After giving the indications for the operation as being chiefly confined to the same class of cases which we have typified in the one given by Dr. Playfair, he advises its performance in cases where hereditary tendency to malignant disease exists. ' Acting upon this belief, I have operated upon torn crevices without local or constitutional symptoms, for no other reason than that there was a history of cancer in the family.' "

Dr. Thomas in his DISEASES OF WOMEN declares that: " Nothing more triumphantly displays the value of Emmet's contribution to gynecology in connection with cervical lacerations than a full exhibit of the evils which result from that condition. Its ordinary consequences are:

CHRONIC PERI-UTERINE CELLULITIS (Inflammation around the womb);

EPITHELIOMA (Cancer);

SUBINVOLUTION (Shriveling of a part or of the whole of the uterus);

STERILITY ;

MENSTRUAL DISORDERS ;

CERVICAL ENDOMETRITIS (Inflammation of lining of neck of womb);

GRANULAR AND CYSTIC DEGENERATION (Forming growths);

FUNGOSITIES OF CORPOREAL ENDOMETRIUM ;

NEURALGIA OF CERVIX ;

DYSPAREUNIA (Painful coition);

TENDENCY TO ABORTION ;

UTERINE DISPLACEMENTS.

“There can be, on the part of those who have been properly impressed with the importance of this lesion, no question as to the truth that all the conditions mentioned may originate from this accident.

“No part of the body of a woman is so liable to the development of cancer as the uterus; no part of the uterus so liable to it as the neck; and no tissue of the neck so liable to it as the glandular lining membrane. Exposure of this by eversion, the result of laceration, would theoretically be supposed to be a fruitful exciting cause of that affection, and practical observation abundantly supports theory in reference to the matter. My own observation has for several years made me feel sure of this, and that of Breiskey, Emmet, and Veit is recorded to the same effect. This alone offers a valid indication for the closure of lacerations attended by local engorgements and irritations.”

“The result of cervical laceration. Each tear of the cervix is an open wound. If during lying-in the genital organs are kept clean, and the lochia (discharges) flow away properly the wounds heal. The opposite surfaces of the tear may unite, and then no trace of it remains; but they seldom do, and a fibrous scar is formed where they meet. When the cervix surrounding the os externum has thus been made into two lips, with a gap between them, and the patient gets up, the intra-abdominal pressure drives the cervix uteri against the posterior vaginal wall. This pressure forces the lips of the cervix asunder, and eversion of the lower part of the cervical canal is the result. By this eversion mucus membrane is exposed to friction and pressure against the vagina. The effect of such friction and pressure are not the same in every case. In some the friction and pressure produce and keep up chronic inflammation of the cervix. Its lips become not only everted, but swollen.” — W. S. Playfair, Professor of King's College Hospital.

S. Pozzie, M. D., Professor of the Faculty of Medicine, Paris, France, states: “The work of cicatrization itself, and its consequent contraction, may have troublesome results; it compresses the glands, hastening their cystic degeneration and the hypertrophy (enlargement) of the tissue (cystic hypertrophy). This dense cicatricial tissue, by compressing the nerve terminations, can give rise to various nerve disorders, according to Emmet and his disciples.

“It is especially in the pressure of the superior angle, that the trouble has its root; and he sees a frequent cause of nervous

disease in this even in cases in which but little complaint is made of the cervical deformity."

"Doleris follows Emmet, insists upon the cicatricial plug; and attributes part of the formation to a parametritis following the infection of the tear. Another early change in the cervix is the eversion of its lips caused by traction of the vaginal insertion upon the divided cervix; this may reach extreme ectropion (turning outward) of the mucous membrane, which becomes more marked as the disease advances."

J. Halliday Croom, Physician to the Royal Maternity Hospital, Edinburgh, writes: "If the cervix is bilaterally torn, and the edges everted and some cystic degeneration as well, then the performance of the operation is urgently demanded. Further, if the laceration is healed, but the cervix nodular and tough, and if some nerve fibers have been embraced in the cicatrix, and are pressed or causing reflex irritation of the uterus or general system, this offers a speedy relief. Even if the area affected is small and if there is some degree of chronic metritis (inflammation) associated with it, the operation should be undertaken and will do good."

The above is but a part of an address delivered by our Specialist before the State Medical Society. Space will not permit a further quotation. The highest medical authorities have been cited and there can be but one conclusion in reference to the serious results from laceration and the necessity of prompt attention to prevent loss of health.

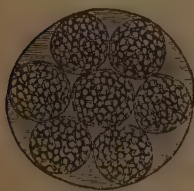
The results of a laceration of the perineum are similar to the effects that follow a laceration of the neck of the womb. These injuries are prolific causes of chronic inflammation, ulceration, local discharges, prolapsus of the pelvic organs and resulting nervous and constitutional troubles which render the life of a woman so afflicted extremely miserable. The parts should be adjusted as soon as possible. Much can be done in a general way by suitable treatment, including medicines taken internally with local applications, soothing tampons, such as Dr. Pierce's Medicated Tampons, etc. Laceration, however, cannot be completely cured in this way, a simple surgical operation being necessary to repair the defects. These operations are extremely successful when properly performed and our surgeons are constantly treating such cases with unequalled success. The perineum is the support to the vaginal walls and as the support is removed the vaginal membrane descends and the womb itself is prone to prolapse. The fact is there is no end of trouble. The health declines steadily and surely. The one condition and about the only one that needs attention is the laceration. Medicines cannot adjust the parts to each other. This can be done only by mechanical means and under the treatment of a specialist. We urge women so afflicted to write to the Invalids' Hotel for advice, and our physicians will be pleased to answer all inquiries.

STERILITY.

(BARRENNESS.)

Real sentiment and interest center in fecundity, since the desires and happiness of mankind are consummated in marriage and procreation. How dreary would life be without love, companionship, and the family! How precious are the ties that bind our hearts to father, mother, daughter, and son! The love of children is innate in the heart of every true man and woman. Each child born supplements the lives of its parents with new interest, awakens tender concern, and unites their sympathies with its young life.

How dreary is the thought that one may attain a ripe old age with neither son nor daughter to smooth the decline of life, or sorrow for his or her departure! How many women desire a *first-born* of love, the idol of their waiting hearts, a soul, which shall be begotten within, clothed with their own nature, and yet immortal! It is a natural instinct, this yearning of the heart for offspring; and yet little is said upon this subject, in which so much is experienced. All that is beautiful and lovely in woman finds its climax in motherhood. What earthly being do we love so devotedly as our mother?



Men and women exhibit but little concern, mere idle curiosity, perhaps, on this subject, unless, perchance, there is no evidence of their own reproductive powers. If, however, these appear to be deficient, then few topics are more deeply interesting or investigated with greater personal solicitude. Such persons will seldom submit their condition to the family physician, for it is a delicate subject, involving personal considerations, and, therefore, they prefer to consult with one who cannot connect their unfortunate situation with any of the incidents which enter into the history of their lives. This is very natural, and sometimes is the only way to keep private matters profoundly secret. Being widely known as specialists, devoting our undivided attention to chronic affections, and having unusual facilities for the investigation and management of such cases, we have been applied to in

innumerable instances, to ascertain the causes of barrenness and effect its removal.

It is admitted that the question of a woman's sterility is practically decided in the first three years of married life, for statistics show that less than ten out of a hundred women who do not indicate their fertility in the first three years of wedlock ever bear children. We have treated many who gave no evidence of fertility for a much longer period of married life, and who afterwards gave birth to children. We are unable to state the proper ratio of the number of the married who are childless; much less have we right to assume that all who decline the responsibilities of motherhood are necessarily barren.

Causes. The causes of barrenness may be obliteration of the canal of the neck of the womb, sealing up of its mouth, or inflammation resulting in adhesion of the walls of the vagina, thus obstructing the passage of the uterus. In the latter case, the vagina forms a short, closed sac. In some instances, the vaginal passage cannot be entered in consequence of an imperforate hymen. Again, the cause of barrenness may either be a diseased condition of the ovaries, preventing them from maturing healthy germs, or chronic inflammation of the mucous membrane of the neck of the uterus, which does not render conception impossible, but improbable. It is one of the most common causes of unfruitfulness, because the female seldom, if ever, recovers from it spontaneously. It has been known to exist for twenty or thirty years.

Chronic inflammation of the vagina also gives rise to acrid secretions, which destroy the vitality of the spermatozoa. Suppression of the menses, or any disorder of the uterine functions, may disqualify the female for reproduction. Flexions of the uterus, displacements, congestions, and local debility, may likewise prevent fertility. Sterility may result from impaired ovarian innervation or undue excitement of the nerves, either of which deranges the process of ovulation. Even too frequent indulgence in marital pleasures sometimes defeats conception. Prostitutes who indulge in excessive and promiscuous sexual intercourse, seldom become pregnant. Any thing that enfeebles the functional powers of the system is liable to disqualify the female for reproduction.

Treatment. An extensive observation and experience in the treatment of sterility, convinces us that, in the majority of cases, barrenness is due to some form of disease which can be easily remedied. If the passages through the neck of the uterus be closed or contracted, and this is the most frequent cause of sterility, a very delicate surgical operation, which causes little if any pain or inconvenience to the patient, will remove the impediment to fertility. In these cases we have succeeded in removing the contraction and stricture of the neck of the womb by dilatation. When the vaginal walls are so firmly united as to prevent copulation, a surgical operation may be necessary to overcome their adhesion. When the hymen obstructs the vaginal orifice, a similar operation may be necessary to divide it. Vaginismus, which will be treated elsewhere, sometimes causes sterility.

It is proper that we should suggest to the barren, that if sexual intercourse be indulged in only very abstemiously, conception will be more likely to occur than if moderation be not exercised. We may also very properly allude to the fact that there is greater aptitude to fecundation immediately before and soon after the menstrual periods than at other times. In fact, many medical men believe that it is impossible for conception to occur from the twelfth day following menstruation up to within two or three days of the return of the menses.

Elongation of the Neck of the Womb. An elongated condition of the neck of the womb, illustrated by Fig. 8, is frequently a cause of sterility. If this part is elongated, slim and pointed, as shown in the illustration, it is apt to curve or bend upon itself, thus constricting the passage through it and preventing the transit of seminal fluid into the womb. An eminent author says, "Even a slight degree of elongation, in which the cervix, or neck, has a conical shape, has been observed to be frequently followed by that condition [sterility]." Our own observations, embracing the examination of hundreds of sterile women annually, lead us to believe that this condition is among the com-

Fig. 8.

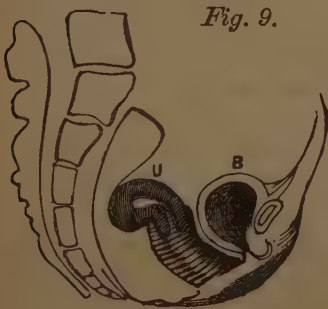


Conoid Neck.

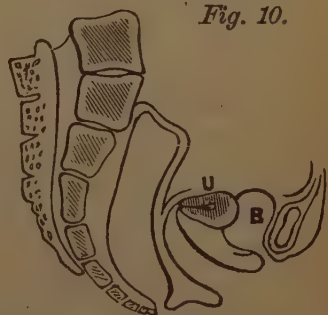
mon causes of barrenness, but, fortunately, it is one of those most easily overcome.

Treatment. If the neck is only slightly elongated, this consists in dividing the slim projecting part, by the use of the *hysterotome*. If it be a more aggravated case, a portion of the womb must be removed. This operation is perfectly safe and simple, and, strange as it may seem to those who are not familiar with operations upon the womb, is not painful. We have never seen any bad results follow it, but have known it to be the means of rendering numerous barren women fruitful.

Flexions and Versions of the Womb. Flexion of the uterus, in which it is bent upon itself, as illustrated in



Flexion. U, Uterus. B, Bladder.



Version. U, Uterus. B, Bladder.

Fig. 9, produces a bending of the cervical canal, constricting or obliterating it, and thus preventing the passage of spermatozoa through it. Version of the uterus, in which its top, or *fundus*, falls either forward against the bladder (anteversion), as illustrated in Fig. 10, or backward against the rectum (retroversion), may close the mouth of the uterus by firmly pressing it against the wall of the vaginal canal, and thus prevent the passage of spermatozoa into the womb. The treatment of these several displacements will be considered hereafter. We may here remark, however, that they can be remedied by proper treatment. Our mechanical movements, manipulations, and kneadings are invaluable aids in correcting these displacements.

Disease of the Ovaries. Sterility may be due to disease of the ovaries. Chronic inflammation of the ovaries may result from uterine disorders of peritonitis, and is commonly at-

tended with a sense of fullness and tenderness, and pain in the ovarian region. These symptoms are more apparent upon slight pressure, or during menstruation. This disease is curable, although it may require considerable time to perfectly restore the health. When this chronic affection is the result of other derangements, the indications are to restore health in the contiguous organs, and to relieve excessive congestion and nervous excitement in the ovaries. The patient should be very quiet during the menstrual period and avoid severe exercise or fatiguing occupations, not only at those periods, but during the intervals. All measures calculated to improve the general health should be adopted. Use injections of warm water, medicated with borax, soda, and glycerine, in the vagina every night and morning. The surface of the body should be kept clean by the daily employment of hand-baths, followed by brisk friction. The bowels, if constipated, should be regulated as suggested for constipation. The system should be strengthened by Dr. Pierce's Favorite Prescription, and, if the blood be disordered, no better alterative can be found for domestic use than Dr. Pierce's Golden Medical Discovery. If the patient does not improve under this treatment, the case should be placed under the immediate care of some physician well qualified by education and experience to critically examine and successfully treat this affection.

Chronic Inflammation and Ulceration of the Uterus, a Cause of Sterility. When enumerating the causes of barrenness we mentioned that chronic inflammation of the mucous membrane of the mouth and neck of the womb was the most common affection that defeats conception. Of all diseases of female organs, this is, without doubt, the most common, and, since it does not at first produce great inconvenience or immediately endanger life, it does not excite the attention which its importance demands. It is overlooked, and when the attention is directed to the existence of this long-neglected disease it appears so trivial that it is not regarded as being the real cause of infertility in the patient.

When this disease has existed for a long time, the very structure of the parts involved becomes changed. The glands of the cervical membrane secrete a glairy mucus, resembling the white, or albuminous part of an egg. The secretion is thick and ropy,

and fills the entire mouth and neck of the uterus, thus preventing the entrance of the spermatozoa. The mucous membrane becomes thickened, the inflammation extends to the deeper structures, and, on examination through the speculum, we find the mouth of the uterus inflamed, hardened, and enlarged, shows the mucous follicles just as they are found all along the neck of the womb, in a state of inflammation and enlargement, and filled with a fluid resembling honey. Unless promptly treated it gives rise to ulceration and a thick discharge.

Feebleness of the constitution, impoverishment of the blood, a tuberculous diathesis, want of exercise, uncleanness, tight lacing, disappointment, excessive excitement of the passions, the use of pessaries for displacement of the uterus, overwork, and taking cold, all predispose the cervical membrane to chronic ulceration.

The inflammation may be so mild, and the discharge so trifling in quantity, as scarcely to attract attention. But after it obtains a firmer hold, and in most cases, it is aggravated by exposure or neglect, the patient experiences dragging sensations about the pelvis, and pain in back and loins, accompanied with a bearing-down sensation and numbness or pain extending to the thighs.

The discharge is thick, starch-like, and generally irritating. The patient becomes irascible, capricious, querulous, and sometimes moody and hysterical. She is easily discouraged, her appetite and digestion become impaired, and she grows thin and does not look or act as when in health.

Treatment. In offering a few hints for the domestic management of these abnormal conditions, we would at the same time remark, that, while health may be regained by skillful treatment, recovery will be gradual. We especially wish to guard the patient against entertaining too strong expectations of a speedy recovery. Although she may employ the best treatment known, yet from three to five months may elapse before a perfect cure can be effected. In persons of scrofulous diathesis, in whom the recuperative forces are weakened, it is very difficult to effect a radical cure. It is equally true, however, that under domestic management alone, thousands have been restored to perfect health and fruitfulness.

Hygienic management consists in toning the functions of the skin by daily bathing the surface of the body, and quickening the circulation by brisk friction. The patient should rise early in the morning, and exercise in the fresh and invigorating air. Those who sleep in warm rooms, or spend much of their time in bed, will continue to have congestion of the uterus, and habitual discharges from this enfeebled organ. The patient should take daily walks, increasing the length of the excursion from time to time, but not to the extent of producing fatigue. The bowels, if constipated, should be regulated. Strengthen the system by using Dr. Pierce's Favorite Prescription. The mouth and neck of the uterus should be thoroughly cleansed by the use of the syringe, as suggested for the treatment of leucorrhea. The use of the solution of Dr. Pierce's Purifying and Strengthening Lotion Tablets there advised will also be beneficial, if thoroughly applied.

A most valuable course of local treatment which may be adopted by any intelligent lady without the aid of a physician, and one that will result in the greatest benefit when there is morbid sensibility, congestion, inflammation, or ulceration about the mouth or neck of the womb, consists in applying to those parts a roll of medicated cotton or soft sponge, allowing it to remain there for twelve hours at a time. A piece of fine, soft, compressible sponge, as large as a hen's egg, or a roll of cotton batting of two-thirds that size, is thoroughly saturated with pure glycerine. Securely fasten to it a stout cord a few inches long. The vagina and affected parts having been thoroughly cleansed with warm water and Castile soap, as advised in the treatment of leucorrhea, the sponge or cotton should be passed up the vagina with the finger, and pressed rather firmly against the mouth and neck of the womb, which, being enlarged, and, consequently falling below its natural position, will generally be low down in the vagina, and so hardened as to be unmistakably distinguished from the surrounding parts by the sense of touch. The glycerine, having a very strong affinity for water, will absorb large quantities of the *serum*, which has been effused into the affected tissues in consequence of their congestion and inflammation, and thus reduce the inflammation and enlargement. This is the cause of the profuse, watery discharge which follows the application. In twelve hours after the sponge or cotton has been applied, it

should be removed by means of the attached thread, one end of which has been purposely left hanging out of the vagina. Then thoroughly cleanse the vagina with warm water, use the solution of Dr. Pierce's Lotion Tablets as suggested for the treatment of leucorrhea, and repeat the glycerine application the following day or every other day.

If there is no irritation or tenderness of the vagina, add one drachm of tincture of iodine to each ounce of the glycerine, alternating the use of this with that of pure glycerine; or, the iodine and glycerine may be used every third day, and the glycerine alone on the two intervening days. As the iodine will color the finger somewhat, it is well to know that this unpleasant effect may be almost or entirely avoided by coating that member with lard, sweet oil, or vaseline. The stain may be readily removed with solution of iodide of potassium. The use of Dr. Pierce's Antiseptic and Healing Suppositories as advised on another page under the head of Ulceration of the Uterus will aid greatly in effecting a cure.

If your medicine dealer does not have these Suppositories in stock, mail 35 cents in stamps to Dr. V. M. Pierce, Buffalo, N. Y., and a box will be sent you by return post.

It is well to alternate Dr. Pierce's Golden Medical Discovery with Dr. Pierce's Favorite Prescription, taking of each three times a day. By persevering in this course of treatment, nine-tenths of those who are thus afflicted will improve and be fully restored to health, fruitfulness and happiness. If barrenness continues, the case should be unreservedly submitted, either in person or by letter, to a physician skilled in the diagnosis and treatment of these affections.

From the foregoing remarks, the reader will perceive that there are a variety of diseased conditions, any one of which may produce sterility. It is equally true that nearly all these conditions may be easily cured by proper medical or surgical treatment. A frequent cause of barrenness is stricture of the neck of the uterus. No medicine that a woman can take or have applied will remove this unnatural condition. Fortunately, however, the means to be employed cause no pain, are perfectly safe, and the time required to effect a cure is short, rarely over twenty or thirty days.

FALLING AND DISPLACEMENTS OF THE WOMB.

The relative positions of the womb and surrounding organs, when in a state of health, are illustrated by Fig. 2, page 682. The womb is supported in its place by resting upon the vaginal walls, and by a broad ligament on either side, as well as by other connective tissues. By general debility of the system, the supports of the womb, like the other tissues of the body, become weakened and inadequate to perfectly perform their duty, thus permitting various displacements of that organ.

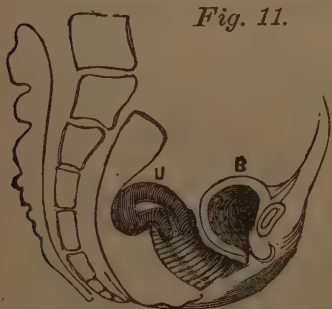
Prolapsus, or Falling of the Uterus, is a common form of displacement. It has been erroneously regarded as a local uterine disease, requiring only local treatment instead of being considered as a symptom of general derangement, and, therefore, requiring constitutional treatment. Hence, variously devised supporters have been invented to retain the womb in position after its replacement. It is a law of physiology, that the muscular system is strengthened by use, and that want of exercise weakens it. The blacksmith's arm is strengthened and developed by daily exercise. Support his arm in a sling, and the muscles will be greatly weakened and wasted. So when artificial supports are used to retain the womb in position, thereby relieving the supporting ligaments and tissues of their normal function, the *natural* supports of the uterus are still further weakened, and the prolapsus will be worse than before when the artificial support is removed. Besides, all these mechanical contrivances are irritating to the tissues of the womb and vagina, and frequently produce congestion, inflammation, and even ulceration, thus rendering the patient's condition much worse than before their employment. These worse than useless appliances should never be resorted to for the temporary relief which they sometimes afford. Constitutional treatment together with appropriate applications is the only effectual method of remedying this morbid condition.

Symptoms. When the displacement is sufficient to cause any serious disturbance, the prominent symptoms are a sensation of dragging and weight in the region of the womb, pain in the

back and loins, inability to lift weights, great fatigue from walking, leucorrhea, a frequent desire to urinate, irritation of the lower bowel, and derangement of the stomach. The womb may protrude from the vaginal orifice; in very rare cases, wholly protrudes, and may be inverted.

Causes. As we have already stated, general debility favors prolapsus of the womb, but various general and local circumstances and conditions also favor its occurrence. Wearing heavy garments supported only by the hips, compressing the waist and abdomen with tight clothing, thus forcing the abdominal organs down upon the womb, are fruitful causes of this affection. Excesses in sexual intercourse give rise to leucorrhea, producing a relaxed condition of the vagina, upon which the womb rests, and, in this way, one of its supports is weakened. Enlargement of the uterus from congestion, and inflammation or tumors also favor prolapsus. Abortion may leave the womb enlarged, its supports weakened, and result in this displacement.

Flexions and Versions. Instead of sliding down into



the vagina, as in prolapsus, the uterus is liable to fall or be forced into other unnatural positions. When the uterus is bent upon itself, it is called *flexion*. If the bending is backward, it is called *retroflexion*; if forward, *anteflexion*. Fig. 11, represents the former condition, the uterus being flexed backward so that the fundus, or upper part of the womb, is pressed against the rectum, while the neck of the uterus

remains in its natural position. This is a common form of displacement, and generally occurs between the ages of fourteen and fifty.

Symptoms. The prominent symptoms of retroflexion of the uterus are a sense of weight in the region of the rectum, difficulty in evacuating the bowels, and, sometimes a retention of the feces. There may also be suppression of the urine, and the menses may be diminished in quantity. If retroflexion is due to a chronic enlargement of the uterus, caused by abortion

or parturition, the patient suffers from an immoderate menstrual flow.

Causes. The principal causes of retroflexion are congestion, enlargement and tumors of the uterus. Congestion is liable to occur in women possessing an extremely active temperament, as well as in those of sedentary and indolent habits. Retroflexion is a common displacement in both married and unmarried women; it is a secondary affection, and, when it is caused by congestion, the menses are painful and reduced in quantity, and there is pain in the back and a sense of weight in the region of the rectum. In some instances, there is a reflex irritation of the mammary glands, and a consequent secretion of milk. There may also be nausea and vomiting, which often lead to the erroneous opinion that the patient is pregnant.

Anteflexion of the uterus denotes a bending forward of the body and fundus of the uterus, while the neck remains in its natural position.

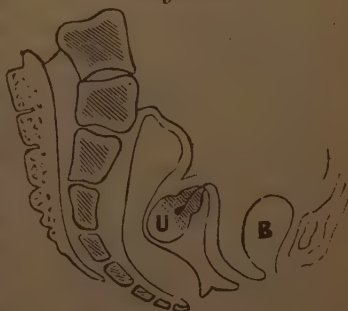
In versions of the uterus, neither the body nor the neck of the womb is bent upon itself, but the whole organ is completely turned backward or forward.

Retroversion of the uterus, illustrated by Fig. 12, signifies a change in the position of the womb, so that the upper, or fundal portion of the organ drops back toward the concavity of the sacrum, while the neck preserves a straight line in the opposite direction. The fundus presses forcibly against the rectum, while the upper part of the vagina bends abruptly and forms an acute angle near the mouth of the uterus.

Symptoms. Retroversion is indicated by bearing-down pains in the loins and difficulty in evacuating the bowels. The feces may accumulate in the rectum, because they cannot pass this obstruction.

Causes. Jumping, falling, or undue pressure from the contents of the abdomen, may suddenly cause retroversion of the

Fig. 12.



Retroversion. B, Bladder.
U, Uterus (Womb).

uterus. Sometimes retroversion results from obstinate constipation.

Anteversion. This term designates another unnatural position of the uterus, in which the fundus, or upper part of the organ, falls forward, as illustrated by Fig. 13, while the neck points towards the hollow of the sacrum. This position of the womb is the reverse of that of retroversion. In its natural position, the fundus of the uterus is slightly inclined forward, and any pressure, or forward traction, is liable to cause it to fall still further in that direction.

Symptoms. One of the most common symptoms of anteversion is a frequent desire to urinate, in consequence of the pressure of the uterus upon the bladder. The free flow of the menses is sometimes obstructed.

Causes. The causes are tight lacing, prolapsus of the abdominal organs, weakness of the supporting ligaments, and enervating habits.



Fig. 13.

Anteversion. U, Uterus. B, Bladder.

Treatment. In treating all the various displacements of the uterus, the prominent indication is to tone up the general system, for by so doing we also strengthen the uterine supports. Digestion should be improved, the blood enriched, and nutrition increased, so that the muscles and ligaments which retain the womb in position may become firm and strong. The womb will thus be gradually drawn into position by their normal action and firmly supported. It is a great mistake, made by physicians as well as patients, to consider a displacement of the uterus a *local* disease, requiring only local treatment. A restoration of the general health will result in the cure of these displacements, the uterus will regain its tone and muscular power, and the local derangement, with its attendant pain and morbid symptoms, will disappear.

It is true that displacements of the womb may be associated with inflammation and ulcers, which require local treatment, as elsewhere suggested; but simple displacement of the uterus may

be remedied by pursuing the following course of sanitary and medical treatment. Sleep on a hard bed, rise early, bathe, and take a short walk before breakfast. Dress the body warmly and allow sufficient space for the easy and full expansion of the lungs. Eat moderately three meals a day, of those articles which are nutritious and readily digested. Keep the bowels regular by the use of proper food. If they are constipated, use Dr. Pierce's Pellets to keep them open and regular. Avoid retaining the standing position too long at a time, especially when the symptoms are aggravated by it. Many energetic women disregard their increasing pains, and keep upon their feet as long as possible. Such a course is extremely injurious and should be avoided.

As a general restorative and uterine tonic, nothing surpasses Dr. Pierce's Favorite Prescription, which is sold by druggists and accompanied with full directions for use. If leucorrhea is an attendant symptom, the treatment suggested for that condition should be employed. The use of Dr. Pierce's Antiseptic and Healing Suppositories, applying one every third night after having first cleansed the vagina and neck of womb thoroughly by the use of warm water and soap as an injection, will prove of great benefit in giving strength to the supports of the womb and its appendages.

By persevering in the rational treatment which we have suggested for the various displacements of the womb, nearly all who suffer from such derangements may be fully restored to health. The patient should not expect *speedy* relief. Considerable time will be necessary to bring the general system up to a perfect standard of health, and, until this is accomplished, no great improvement in the distressing symptoms can be expected. Mechanical movements are especially effective in this class of cases. We have successfully treated many obstinate cases in which the displacements were very serious.

Many cases are so severe that the bladder becomes misplaced or even protrudes; in others the walls of the vagina protrude, covering a pouch of the rectum.

Where frequent and severe labors have resulted in tearing and weakening the natural supports beyond a limit that nature's efforts can repair, surgical assistance is necessary to reinforce the supports.

Advance in surgical skill has made it possible for our specialists to do this effectively and surely.

The plastic operations usually done are ineffective and in a few months their benefit disappears; removal of the womb is of no benefit and makes the patient worse.

Our specialists usually operate after the method of Professor Wertheim as modified and improved by their experience. The results are very successful and attended with little risk or discomfort. There is no removal of any of the pelvic organs, and all the parts are restored to their normal function and a healthful position.

In many cases local electrical and supportive treatment requiring about a month's stay in our Sanitarium is all that is required.

CERVICAL STRICTURE AND DYSMENORRHEA.

(PAINFUL MENSTRUATION.)

Dysmenorrhea, from its Greek derivation, signifies a *difficult monthly flow*, and is applied to menstruation when that function becomes painful and difficult. Menstruation, like other healthy operations of the body, should be painless, but too frequently it is the case, that discomfort and distress commence twenty-four hours before the flow appears and continue with increasing pain, sickness at the stomach and vomiting, until the patient has to take to the bed. When the discharge does occur, speedy relief is sometimes obtained, and the patient suffers no more during that menstrual period. With others, the commencement of the function is painless, but from six to twenty-four hours after, the flow is arrested and the patient then experiences acute suffering. Pain may be felt in the back, loins and down the thighs. Sometimes it is of a lancinating, neuralgic kind, at others, it is more like colic. Frequently the distress causes lassitude, fever, general

uneasiness, and a sense of lethargy. There are those who suffer more or less during the entire period of the flow, while the distress of others terminates at the time when a membranous cast is expelled. For convenience of description, dysmenorrhea has been divided into the following varieties: *neuralgic, congestive, inflammatory, membranous, and obstructive.*

The neuralgic variety of dysmenorrhea, sometimes called *spasmodic* or *idiopathic*, occurs when there is excessive sensibility of the ovaries and uterine nerves, which sympathetically *respond*, especially to cutaneous, biliary, and sexual irritation, and when ovarian or uterine irritation is communicated to distant nerve-centres. In the first class, usually comprising lean persons of an encephalic temperament, whatever disorders the functions of the general system instantaneously reflects upon the ovaries and uterine nerves, and the menstrual function is correspondingly disturbed, and instead of being painless the flow becomes spasmodic with paroxysms of distress. In the second class, which includes those persons who are plethoric, the ovarian and uterine nerves seem to be the origin and centre of irritation, which is sometimes so severe as to cause indescribable pain. We have known women who affirmed that the severity of labor pains was not so great as that from this cause. In one instance the subject suffered thus for eleven years and then became a mother, and has ever asserted that her periodic suffering was far more intense than the pain experienced during her confinement. These neuralgic pains fly along the tracks of nerves to different organs and capriciously dart from point to point with marvelous celerity, producing nausea, headache and sometimes delirium.

In the congestive variety of dysmenorrhea, the menstrual period may be ushered in without pain; after a few hours, the pulse becomes stronger and more rapid, the skin grows hot and dry, the menses stop, there is uneasiness, restlessness, and severe pelvic pains. Evidently the mucous membranes of the Fallopian tubes and uterus have become congested, and the pain results from the arrest of the functional process, the exudation of blood.

The causes are plethora, exposure to cold, excitement of the emotions or passions, and a morbid condition of the blood. Sometimes congestion arises in consequence of a displacement of the uterus.

In the inflammatory variety the mucous membrane of the uterus is the seat of irritation. The blood flows into the capillary vessels in greater abundance than is natural, and those vessels become over-dilated and enfeebled and so altered in their sensibility as to produce local excitement and pain. It may be associated with inflammation of the ovaries, peritoneum, or bladder. Upon the return of the menses, there is a dull, heavy, fixed pain in the pelvis, which continues until the period is completed. There is generally tenderness of the uterus, and also leucorrhea during the intervals between each monthly flow.

In the membranous variety of dysmenorrhea, the entire mucous membrane which lines the cavity of the uterus, in consequence of some morbid process, is gradually detached and expelled at the menstrual period.

Symptoms. There are steady pains at the commencement of the menstrual flow, and they increase in violence and become decidedly expulsive. The mouth of the uterus gradually dilates, and finally the membrane is forced out of the uterus, attended with a slight flow of blood and an entire subsidence of the pain.

The treatment, in all the preceding varieties of dysmenorrhea, should consist of measures to determine the circulation of the blood to the surface, and increase the perspiratory functions. Congestion and inflammation of the internal organs are generally induced by exposure to cold or from insufficient clothing. Sometimes they follow from neglect of the skin, which is not kept clean and its excretory function encouraged by warm clothing. The domestic treatment at the monthly crisis should be commenced by the administration of hot foot, and sitz-baths, after which the patient should be warmly covered in bed, and bottles of hot water applied to the extremities, back, and thighs. Dr. Pierce's Compound Extract of Smart-weed should be given in full doses, frequently repeated, to secure its diaphoretic, emmenagogue, and anodyne effects, which, for this painful affection, is unsurpassed. For the radical cure of this disease, whether of a congestive, inflammatory, or neuralgic character, Dr. Pierce's Favorite Prescription, which is sold by druggists, is a pleasant and specific remedy, which will most speedily correct the abnor-

mal condition that produces the trouble, and thereby obviate the necessity of passing this terrible ordeal at every monthly period. The patient should take two teaspoonfuls of the medicine three times a day, and keep up its use in these doses for weeks. Frequently, one month will suffice to cure, but in most cases, a longer season is required. In the end, the suffering patient will not be disappointed, but will become a new being, ready for the enjoyment and duties of life. The bowels should be kept regular throughout the treatment by the use of Dr. Pierce's Pleasant Pellets, if necessary. A hand or sponge-bath should be used daily to keep the skin active, and be followed by a brisk rubbing of the surface with a rough towel or flesh-brush. A wet sheet pack will cleanse the pores of the skin and invite the blood into the minute capillaries of the surface, and thus prove of great benefit. It should be repeated after an interval of seven days, but ought to be omitted if near the approach of a menstrual period. The clothing should be warm to protect the system against changes of temperature; especially should every precaution be taken to keep the feet dry and warm. The patient should walk in the open air and the distance should be regularly lengthened at each succeeding walk. If the course of treatment which we have suggested be faithfully pursued a permanent cure will be effected.

In the obstructive variety of dysmenorrhea, some organic impediment hinders the exit of the menstrual blood from the uterus, which, consequently, becomes distended and painful. The pain may be constant, but is most acute when the uterus makes spasmodic efforts to discharge the menstrual blood. If these efforts prove successful, there is an interval of relief. Flexion or version of the womb may produce partial occlusion of the canal of the neck of the uterus, thus preventing the free flow of the menstrual fluid through it. Tumors located in the body or neck of the uterus often cause obstruction to the free discharge of the menses. Imperforate hymen and vaginal stricture also sometimes cause obstruction and give rise to painful menstruation. These abnormal conditions will be reviewed elsewhere.

Partial adhesion of the walls of the neck of the womb may result from inflammation of the mucous lining, and prevent a

Fig. 14.THE UTERINE
DILATOR.

This instrument is introduced into the canal of the uterine neck with its blades closed. By means of the thumb-screw the blades are then separated as shown in this illustration, the cervical canal being thereby dilated to the required extent.

free and easy exit of the menstrual fluid. In many cases, the contracted and narrowed condition of the canal of the cervix seems to be a congenital deformity, for we can trace it to no perceptible cause. It is also true that contraction and partial, or even complete, stricture of the cervix, or neck of the womb, often results from the improper application of strong caustics to this passage by incompetent and ignorant surgeons. Every person has observed the contraction of tissue caused by a severe burn, which often produces such a distortion of the injured part as to disfigure the body for life. A similar result is produced when the neck of the womb is burned with strong caustics. The tissues are destroyed, and, as the parts heal, the deeper-seated tissues firmly contract, forming a hard unyielding cicatrix, thus constricting the neck of the womb, through which the menses pass into the vagina.

Treatment. From the nature of this malady, it will readily be seen that no medical treatment can effect a radical cure. We must therefore resort to surgery. Temporary relief may be obtained from repeated dilations of the constricted part of the cervical canal. This may be accomplished by using a very smooth probe which is fine at the point, but increases in size, so that its introduction will widen and expand the orifice and canal. The stricture may be overcome in many cases by using different sized probes. In some instances, we have employed the uterine dilator, represented by Fig. 14. We have also introduced sea-tangle and sponge tents into the neck of the womb, and allowed them to remain until they expanded by absorbing moisture from the surrounding tissues. The latter process is simple, and in many cases preferable. By means of a speculum (see Figs. 19 and 20), the mouth of the womb is brought into view, and the surgeon

seizes a small tent with a pair of forceps and gently presses it into the neck of the womb, where it is left to expand and thus dilate the passage. If there is a persistent disposition of the circular fibers of the cervix to contract, and thus close the canal, a surgical operation will be necessary to insure permanent relief.

On this subject Prof. S. Pozzi of Paris, writes: "It can be asserted that the most frequent cause of dysmenorrhea and sterility in women is a rather common malformation of the cervix uteri by which the os (mouth) is unduly narrowed. This anatomical condition seems to be the result of a certain degree of arrest of development, for it generally coexists with shape or type of uterus very similar to the infantile type; the cervix is long and the body is more or less bent forward.

"Dysmenorrhea is then most often present and it is in those cases that pains are most severe. Occasionally dysmenorrhea may be absent, but the almost universal result is sterility. Here dilatation is insufficient and illusory on account of its ephemeral effect.

"I have obtained the most satisfactory results from my operation, the benignity of which is absolute. When care is taken to operate aseptically, and no lesions exist, no accident need be feared, especially hemorrhage. Nor is subsequent infection possible, as it is where the cervical wound has been left open to spontaneous cicatrization. I can say personally that I have not experienced a single complete failure. Success is universal as regards dysmenorrhea, which is immediately and definitely cured. As regards sterility, in a large percentage pregnancy followed the operation, going to term without an accident, the labor being normal. Several of my cases are truly remarkable; women who have been married for five, ten and in one instance sixteen years, never becoming pregnant, were impregnated some months after the operation."

In performing the operation, we use something like the above improved method. The cervical canal is enlarged by an incision on either side and so stitched as to prevent union except by leaving an opening of full size. The operation is but slightly painful, and in the hands of a competent surgeon is perfectly safe. We have operated in a very large number of cases and have never known any alarming or dangerous symptoms to

result. The day after the operation the dressing is removed and the patient is able to be around the room in comfort. Improvement is rapid. In married women previously sterile over sixty-five in a hundred have become pregnant.

Many times patients cannot understand why it is that the operation of cutting the constricted cervix causes no pain; they often being entirely unconscious of the making of the incision. The explanation is easy. The cervix uteri, or neck of the womb, is supplied with but few nerves of sensation, and is almost as destitute of sensation as the finger or toe nails, the paring of which causes not the slightest pain. On this account we never find it necessary to administer chloroform or any other anæsthetic when undertaking this operation. If the patient be extremely sensitive the application to the cervix of a weak solution of cocaine is quite sufficient to completely benumb or anæsthetize the parts so as to entirely avoid all pain from the operation.

AMENORRHEA.

The term *amenorrhea* signifies the absence of menstruation when it should occur. It may be considered under two general heads: when it fails to be established at the proper age, and when after having made its appearance it ceases to return at the usual periods. The term *retention* has been applied to the first, and that of *suppression* to the latter. Menstruation may fail to be established in consequence of organic defects, or from some abnormal condition of the blood and nervous system.

Malformation of the Vagina. Retention of the menses may result from malformation of the vaginal canal, which sometimes terminates before it reaches the womb, being simply a short, closed sac. If the uterus and ovaries are perfect, all the feminine characteristics are manifest, and a vaginal exploration discloses the nature of the difficulty. If, however, the sides of this passage adhere in consequence of previous inflammation, they may be carefully separated by a surgical operation, and this function restored.

Absence or Malformation of the Womb. The uterus may be deformed or entirely absent, and yet there be an inclination, or symptoms indicative of an effort, to establish this

function. The individual may be delicate in organization, graceful in bearing, refined and attractive in all feminine ways, and yet this organ may be so defective as to preclude the establishment of the menstrual function. Sometimes there is merely an occlusion of the *mouth* of the uterus, the perforation of which removes all difficulty. In others, the *neck* of the womb is filled with a morbid growth, or the walls of its canal are adherent, as the result of inflammation, and may be separated by a small silver or ivory probe, and the menses be thus liberated.

Imperforate Hymen. The hymen is a circular, or semilunar membrane, which imperfectly closes the outer orifice of the vagina in the virgin. When of a semilunar shape, it usually occupies the lower or posterior portion of the canal, leaving an opening in the upper or anterior portion, varying from the size of a quill to that of a thimble, through which the menstrual fluid exudes. This membrane is usually ruptured and destroyed by the first sexual intercourse, and, hence, its presence has been considered evidence of virginity. Its absence, however, must not be considered a conclusive evidence of sexual intercourse, for, as Dr. Dunglison says, "many circumstances of an innocent character may occasion a rupture or destruction of this membrane. It is often absent in children soon after birth; while it *may* remain entire after copulation. Hence, the presence of the hymen does not *absolutely* prove virginity; nor does its absence prove incontinence, although its presence would be *prima facie* evidence of continence."

Sometimes this membrane, when not imperforate, is so thick and strong as to render sexual intercourse impossible, and requires a cutting operation to open the vagina. Several such cases have been operated upon at the Invalids' Hotel and Surgical Institute.

It occasionally happens that the hymen is entire, or imperforate, at birth. This may not be discovered before puberty. But when this period arrives and the menstrual discharge takes place into the vagina, the female will suffer from the retention and accumulation of this secretion, and ultimately a tumor or a protrusion of the membrane which closes the vagina will occur, giving rise to severe pain and other serious symptoms. The retained menstrual fluid, increasing in quantity at every monthly

period, dilates the womb as well as the vagina, and even the Fallopian tubes become distended, presenting at length an urgent necessity for relief.

Treatment. This condition admits of relief only by operative surgery. The operation consists in dividing the hymen by a crucial incision, thus allowing the accumulated fluid to be discharged, after which the vagina is cleansed by syringing it with warm water.

Absence of the Ovaries. Let us suppose the case of a young woman who has fully reached the period of puberty without having menstruated. All the organs which we have described, are manifestly developed, she is healthy, vigorous, robust, and able to exercise freely or to engage in laborious occupations. But we notice that her voice is not sweetly feminine, nor is her presence timid, tender, and winning; there is wanting that diffident sexual consciousness, which gently woos, and at the same time modestly repels, and tends to awaken interest, curiosity and desire. Considering also that she has never manifested any inclination to menstruate we are irresistibly led to the conclusion that the ovaries are wanting; the delicate mustache upon the upper lip, the undeveloped breasts, the coarse features and her taste for masculine pursuits, all concur in this diagnosis. Thus we account for the harshness of the voice, fitted for command rather than to express the mellow, persuasive cadences of love. Such a malformation cannot be remedied.

Retention and Suppression from Morbid Conditions of the Blood. Non-appearance, as well as suppression of the menses, may result from an abnormal state of the blood. The first condition which demands our attention under this head is *plethora*. In robust, plethoric females the menses are sometimes very tardy in their appearance, and every month the attempt to establish this function is attended with pain in the head, loins and back, chilliness, nausea, and bloating of the abdomen. Sometimes there is intolerance of light or sound, and cerebral congestion, amounting almost to apoplectic symptoms. The pulse is full and strong, the blood abundant and surcharged with red corpuscles. Such persons may be accustomed to luxurious living, and there is evidently a predisposition to abnormal activity of the alimentary functions.

Treatment. We may briefly suggest that such subjects should engage in laborious physical exercise in order to expand the surplus of vitality, and should lessen the daily amount of food taken, and use that which is light and unstimulating. One must also prevent the determination of blood to the head, by keeping it cool, and the feet warm thereby increasing the flow of blood to the extremities. The volume of the circulation may be diminished by acting upon the natural outlets, such as the skin, kidneys, and bowels. The proper means and appliances for quickening the circulation of the blood are indicated, and friction upon the surface, bathing, the daily use of such cathartics as Dr. Pierce's Pellets, and, finally the use of some general uterine stimulant, such as Dr. Pierce's Favorite Prescription, will generally prove successful in cases of amenorrhea resulting from plethora.

Retention and Suppression from Anæmia. To describe the condition of the patient whose blood is low and deprived of the richness, warmth, and bloom it once possessed when it kindled admiration and enthusiasm in others, is but to give a picture of a numerous class of female invalids. Plate IV, illustrates the blood in health (A) and disease (B). Figure B, shows plainly the appearance of blood cells in Anæmia, also the characteristic broken down cells from the great loss of albuminous material (Hæmoglobin) as they appear through the microscope in Chlorosis, a disease very common in *young womanhood* characterized by a greenish palor of the skin, depraved appetite, languor, heart palpitation, etc., commonly called "green sickness."

Chronic Decline, with its attendant anæmia, may be induced by bad habits, destitution, or constitutional depravity. Sickly forms, wrecks of health, address our senses on every side. All these subjects evidently once had a capital in life, sufficient, if properly and carefully husbanded, to comfortably afford them vital stamina and length of days. Alas! they have squandered their estate, perchance in idleness and luxurious living, or have wasted it in vanities or misdirected ambition. Having become bankrupts in health, there is necessarily a failure of the menstrual function, and then follows a *panic*. All the blame of the insolvency and general derangement is unjustly attributed to the non-performance of the duties of the uterus. Thus, this organ is altogether *dependent* upon the general health for its functional ability, yet frequently treatment is instituted to compel menstruation, regardless of the condition of the system

Thus the enfeebled uterus is wrongfully held responsible for general disorder, because it ceases to act, when *by acting* it would further deplete the blood and thus materially contribute to the already existing chronic decline.

No matter what are the causes of this decline, whether they are the follies of fashion, the effect of indolence, debility in consequence of insufficient food, perversion of nutrition by irregular habits, lack of exercise, or the taking of drastic medicines, the result is anæmia and amenorrhea.

Treatment. We would suggest in such cases a nutritious diet, increased exercise, cleanliness, regular habits, hard beds, and useful employment. The diet may be improved by animal broths, roasted meats, fresh beef, mutton, chicken, or eggs, and the dress should be comfortable, warm, and permit freedom of motion. The patient should indulge in amusing exercises, walking, swinging, riding, games of croquet, traveling, singing, percussing the expanded chest, or engage in healthful calisthenic exercises. The hygienic treatment of this form of amenorrhea, then, consists in physical culture, regular bathing, and the regulation of the bowels, if constipated.

The *medical treatment* should be directed to enriching the blood, improving nutrition, toning up the generative organs, and the health of the whole system. This requires the employment of uterine and general tonics, and Dr. Pierce's Favorite Prescription, which is sold by druggists, happily combines the properties required. It improves digestion, enriches the blood, exercises a tonic and gently stimulating effect upon the uterus and ovaries, and thus promotes the function of menstruation. It is not a strong emmenagogue, but operates slowly, yet surely, and in accordance with physiological laws, being eminently congenial in its effects upon the female system, and, hence, not liable to do harm. There is danger in employing active driving medicines, besides, no emmenagogue, however powerful, can establish the menstrual function so long as the system is in a debilitated condition and the blood reduced. The restorative effects of the "Favorite Prescription" should be secured by administering it regularly, in from one to two teaspoonful doses, three or four times a day, for several weeks, and as the system is built up and those symptoms appear which indicate a return

of the menses, their visitation may be encouraged by the use of hot foot and sitz-baths, and frequent doses of Dr. Pierce's Compound Extract of Smart-Weed. But the latter should only be used when symptoms of approaching menstruation are manifested. By following out this course of treatment, a soft flush will gradually take the place of the pallor of the cheeks, the appetite will return and the health will be restored.

Acute Suppression of the Menses may be caused by *strong emotions* as excessive joy, or by violent *excitement* of the *propensities* as intense anger, sudden fright, fear, or anxiety. Suppression may result from sudden exposure to cold, immersion of the hands or feet in cold water, drinking cold water when the body is heated, sitting on the cold ground or damp grass, or from a burn or wound. It is not uncommon for women to labor in the heated wash-room, pounding, rubbing, and wringing soiled linen, thereby overtaxing the delicate physical system. While feeling tired and jaded, and reeking in perspiration, they rinse and wring the clothes out of cold water and hang them upon the line with bare arms, when the atmosphere is so freezing that the garments stiffen before they finish this part of the task. Is it any wonder that acute suppressions occur or that inflammations set in?

The symptoms which naturally follow are a quick pulse, hot skin, thirst, fever, headache, and dizziness, and the inflammation may locate in the ovaries, uterus, lungs, bowels, brain, or other parts. No matter what organs are attacked the menses are suppressed. The suppression can generally be attributed to an adequate cause, resulting in constitutional disturbance. The severity and duration of the attack and the power of the constitution to resist it must determine the gravity of the consequences.

Treatment. As acute suppression of the menses is due to derangement of the circulation of the blood, caused by taking cold, by violent excitement of the propensities or excessively strong emotional experience, the prominent indication is to secure its speedy equalization. Give a hot foot bath, a warm sitz-bath, or the spirit vapor-bath and administer Dr. Pierce's Compound Extract of Smart-Weed in doses to produce free perspiration. Dr. Eberle, a very celebrated medical author, says that he used

Plate IV

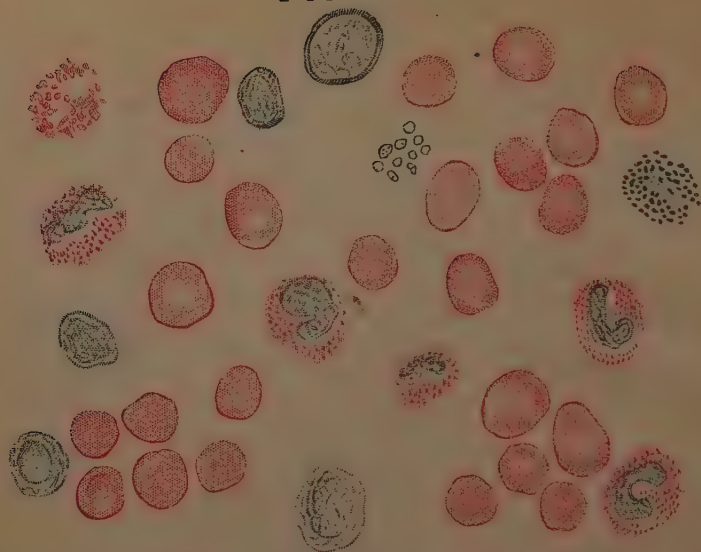


Fig. A Normal Blood in Health

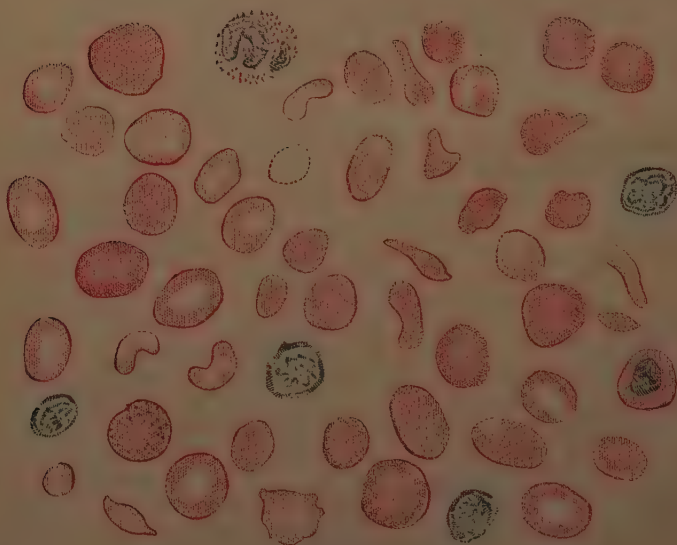


Fig. B Appearance of the blood cells in anemia chlorosis, showing destruction of round healthy cells
(See p. 419)
p. 717.

the Extract of Smart-weed in twenty cases of amenorrhea, and affirms, "with no other remedy or mode of treatment have I been so successful as with this." Our experience in the use of the Extract has been equally satisfactory. Should this treatment not establish the function, Dr. Pierce's Favorite Prescription should be given three times a day until the system is invigorated, say for twenty-eight days, when the above course may be repeated, and generally with success. Should the case be complicated with inflammation of the lungs, brain, or other vital organs, manifesting alarming symptoms, the family physician should be called. The treatment should be active and suited to the indications of each particular case. When the disease becomes chronic, the active stage of symptoms having passed, and it continues to linger without making the desired improvement, all the means suggested for the treatment of suppression from anæmia should be employed. Their use will be followed by the most gratifying results. It should be borne in mind, however, that when we suggest any treatment in this volume, it is generally such as the family may institute and apply, and does not by any means represent the variety or extent of the remedial resources which we employ when consulted in person or by letter. We refer our readers to only a few of the safe and reliable remedies which we have prepared and placed within their reach, and give them just such hygienic advice as we think will best serve their interests.

MENORRHAGIA.

(PROFUSE MENSTRUATION.)

The word *Menorrhagia*, which is of Greek derivation, literally means *monthly breaking away*, and is employed to designate profuse menstruation. This disorder must not be confounded with those hemorrhages which are not periodical, and which are due to other causes. The term *menorrhagia* is restricted to an immoderate monthly flow. The menstrual flow may occur too often, continue too long, or be too profuse. It induces a feeble pulse, cold extremities, weak respiration, general debility, and may occur in opposite states of the system, *i. e.*, in women who have a plethoric and robust habit, or in those of flaccid muscles

and bloodless features. When natural the menstrual discharge is so gradual that by mixing with the vaginal secretions it is prevented from coagulating, but in this disease clotted masses are often observed.

Symptoms. In women of a *plethoric* habit, it is ushered in by itching and heat in the vagina, pain and a feeling of weight in the loins and lower part of the abdomen, and, at times, the breasts become hot and painful. There is considerable thirst, headache and giddiness. At last, the blood appears and flows profusely, and all the violent symptoms at once subside. The rest of the period is marked by an inordinate flow, leaving the system weak from the loss of blood. It most frequently occurs in persons who are naturally weak and delicate—unfortunately the periods are oftener and continue longer, and after a time they are renewed by any bodily exertion or mental emotion, so that a constant drain exists. If the flow of blood is not continuous, leucorrhea intervenes. The patient gradually loses strength and becomes languid, her face is pale and usually bloated, livid circles appear around the eyes, the appetite is impaired, the bowels are constipated, and the feet and ankles swollen. Lack of blood in the brain is indicated by headache, ringing in the ears, and dizziness. The patient is nervous and irritable, being disturbed by the slightest noise, and the heart palpitates after the least exertion.

Causes. The *first* form is caused by eating too much rich and highly-seasoned food, drinking wine, porter, ale, or beer, want of exercise, in brief, whatever induces plethora; the *second* results from an insufficient or poor diet, leucorrhea, frequent abortions, want of ventilation, inherent feebleness, and whatever depresses the vital powers. Either form may be due to syphilitic taints, excessive sexual indulgence, accidents of pregnancy, or organic diseases of the womb. The morbid affections of the womb most likely to induce menorrhagia are granular ulceration of its mouth and neck, fungous degeneration of its lining membrane, and tumors within that organ. As these subjects are severally considered on other pages we shall here dismiss them with this brief notice.

Profuse menstruation is very prone to occur in young women of a lymphatic temperament, whose organs are sleazy in texture.

Treatment. To control the excessive flow, the patient should remain in bed, and assume the recumbent position until the period is passed. If circumstances prevent strict compliance with this rule, it should be observed as nearly as possible. Warmth should be applied to the feet, and cold cloths, which ought to be removed as soon as they become warm by the heat of the body, should be repeatedly placed upon the back and abdomen. A strong tea made from cinnamon bark, or witch-hazel leaves or bark, taken freely, will prove very efficacious in checking the flow. The fluid extract of ergot, in doses of from half a teaspoonful to a teaspoonful, in a little water or cinnamon tea, is one of the most effectual remedies in this affection. Another valuable remedy for arresting menorrhagia is an infusion of Canada fleabana; or the oil of this plant may be administered in doses of from five to ten drops on sugar. Gallic acid is also a good styptic to employ in these cases. If there is febrile excitement, a hard pulse, frequent and throbbing, and if there is headache, thirst, parched lips, hot and dry skin, as is sometimes the case, then menorrhagia is due to an augmented action of the heart and arteries, and the indication of treatment is to diminish vascular action. This may be temporarily accomplished by the use of *veratrum viride*, which should be continued until the flow is sufficiently diminished.

The means already suggested will generally prove effective in controlling the inordinate flow at the time. Treatment that will produce permanent relief should then be adopted. The condition of the skin, kidneys, and bowels, requires attention for noxious elements should not be retained in the system. To give tone to weakened pelvic organs we know of nothing more specific in its effects than Dr. Pierce's Favorite Prescription, which is sold by druggists. It should be taken continuously for weeks, in order to fully correct the extremely weakened condition of these organs. It also aids nutrition, and thus tones up the general system, so that in the form of profuse menstruation, resulting from debility, the patient is strengthened, her blood enriched, and her nervousness quieted, which constitutes the necessary treatment to make the cure permanent.

As women approach the critical age, and menstruation ceases, if they are anæmic, their condition is pitiable. This period is

popularly denominated the *turn of life*. Under favorable circumstances, the vitality is decidedly enhanced, and the decline of this function is attended with a revival of the bodily powers. But when the crisis has been preceded by excessive labor, when intemperance or excesses of any kind have deranged the bodily functions and perverted nutrition, when the mind has been long and deeply depressed, or when the insidious progress of disease of the heart, liver, or other important organs occurs in consequence of irregularities of living, then there is danger of congestion of the uterus and a protracted and profuse menstrual flow which favors a decline.

The treatment of this form of menorrhagia does not differ from that already suggested. The diet should be light and nourishing, and daily exercise, walking, riding, change of air and scenery, all will contribute to restoration. Especial attention should be directed to the condition of the bowels and liver. If the latter be deranged, Dr. Pierce's Golden Medical Discovery will be a most efficacious remedy. When there is a diminution of vital force, resulting in impaired nutrition and disorders of blood, an alterative is required which will insensibly and gradually restore activity. Impairment of nutrition is very frequently associated with functional or organic disease of the liver. Whenever innutrition depends upon depravation of the blood or torpor of any of the secretory organs, the "Golden Medical Discovery" will prove to be an invaluable remedial agent, for it is an alterative and at the same time a blood restorative. If the bowels be costive small laxative doses of Dr. Pierce's Pleasant Pellets should be employed. The "Favorite Prescription" regulates the menstrual function by toning up the tissues of the uterus and restraining the escape of the menses from the orifices of the blood-vessels. While the diet should be nourishing, consisting of wild game, mutton, chicken, and wine, the patient ought not to debilitate the stomach by the use of strong tea or coffee. The circulation of the blood should be quickened by riding, walking, exposure to sunlight, and fresh air. The patient should engage in some light occupation, in which the mind will be constantly as well as agreeably employed, but not overtaxed. By pursuing the course of treatment, invalids suffering from menorrhagia may be permanently restored to health.

THE TURN OF LIFE.

(CESSATION OF THE MENSES.)

Menstruation commonly occurs at regular monthly intervals, during a period of about thirty years. The time for cessation depends somewhat upon the date of its first appearance. In the temperate zones it commences at about the fifteenth year, and, consequently should terminate at the forty-fifth year. Instances are common, however, in which it has been prolonged until the fiftieth and even to the fifty-fifth year. In warm climates it commences and terminates at an earlier age.

As women approach the critical period of life, if the general health and habits be good, the discharge may gradually diminish, and, at length, totally disappears, without producing any particular inconvenience, but this seldom happens. More frequently, the discharge is entirely absent for six or seven weeks, and when it does return, it is more copious than usual. In some cases, the flow is not only too profuse, but too frequent. Many months may elapse before the menses return, and, even then they are apt to be very pale and deficient in quantity.

The fluctuations of this function occasion irregularities and disturbances of the general health. When the flow of blood is diverted from the uterus, it is liable to be directed to the head or some other part of the body. In fact, there appears to be constitutional agitation and disorders of all the organs. Perhaps one reason for calling this a critical period is that if there is a morbid tendency in the system, a disposition to develop tumors of the breast or uterus. These are very liable to make rapid progress at this time, since they are not relieved by the customary local exudation of blood. It is a time favorable to the awakening of latent disorder and morbid growths, for, at the decline of the menstrual function the uterus is not so capable of resisting vitiating influences.

There is greater liability to irritation of the bladder and rectum, and the menstrual flow may be superseded by a white, acrid discharge caused by inflammation of the mucous membrane of the vagina. Even if the system be not enfeebled by excessive losses of blood, debility may result from a continued

irritation of the uterine organs and cause the morbid discharge. The nervous system sympathetically responds, becoming exceedingly irritable, and thus implicating in this derangement every bodily organ. In some constitutions the change of any habit is almost impossible, particularly if it is improperly acquired, or detrimental to health; and so respecting this function we have sometimes thought that the more it has been abused and perverted during the time of its natural activity, the greater is the disturbance occasioned when it ceases.

Treatment. There should be regularity in all the habits of life. Women are too apt to approach this important period without due care and consideration. When the physical system is about to suspend a function it is folly to endeavor to perform the labor or assume the responsibilities which were permissible when the constitution was more robust.

How the duties of each day and hour weigh upon the energies of the mother! What intense solicitude and yearning she experiences! How unselfish is that mother who each day works steadily and faithfully for others and who is conscious of the hidden dangers that lurk around her pathway! With confiding faith and love she commends the interests of her children to Him who doeth all things well. She anticipates the wants of her family and strives to supply the desired comforts thus wasting her strength in the labors prompted by her loving nature. Would it not be a greater comfort to those children to have the counsel of their dear mother in later years than to have the bitter reflection that she sacrificed her health and life for their gratification?

Unconsciously, perhaps, but none the less certainly, do women enter upon this period regardless of the care they ought to bestow upon themselves. Without sufficient forethought or an understanding of the functional changes taking place, they over-tax their strength, until, by continuous exertion, they break down under those labors which to persons of their age are excessive and injurious. Is it strange when woman has thus exhausted her energies, when her body trembles with fatigue and her mind is agitated with responsibilities, that the menses capriciously return, or the uterus is unable to withstand congestion, and capillary hemorrhage becomes excessive? If the physical system had not

been thus exhausted, it would have exercised its powers for the conservation of health and strength. It is better to be forewarned of the ills to which we are liable, and fortify ourselves against them, rather than squander the strength intended for personal preservation. Let every woman, and especially every *mother*, consider her situation and properly prepare for that grand climacteric, which so materially influences her future health and life.

The general health should be carefully preserved by those exercises which will equalize the circulation of the blood, and the regular action of the bowels should be promoted by the use of those articles of diet which contribute to this end. Relieve the mind of responsibility, keep the skin clean, and enrich the blood with tonics and alteratives. For the latter purpose, use Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." If these remedies fail, seek professional advice. A careful regulation of the habits, strict attention to the requirements of the system, and the use of tonic medicines, will very frequently render the employment of a physician entirely unnecessary.

LEUCORRHEA.

("WHITES.")

Leucorrhea is the symptomatic manifestation of some uterine or vaginal affection, vulgarly called "whites." We say *symptomatic*, for the white or yellowish discharge, which we term leucorrhea, is not a disease, but a symptom of some uterine or vaginal disorder. We call it a *white* discharge to distinguish it from the menses and uterine hemorrhages. It varies, however, in color and consistency from a white glairy mucus to a yellow or greenish, purulent, fetid matter. Sometimes it has a curdled appearance, at others, it is of the consistency of cream. Leucorrhea is the most common symptom of uterine derangement, and there are few females who are not affected by it at some period of life. It may originate either in the vagina or uterus, and it is accordingly termed either vaginal or uterine leucorrhea. The nature of leucorrhea is analagous to that of nasal catarrh. In a healthy state, the lining membrane of the genital organs secretes

sufficient mucus to moisten them; but, if the mucous membrane is temporarily congested or inflamed, the secretion becomes profuse, irritating, and offensive. Vaginal and uterine leucorrhea are essentially different in character, the former being an acid, and the latter an alkaline secretion, and, while the first is a creamy, purulent fluid, the latter is thick and ropy, like the white of an egg. In fact, the latter discharge is rich in albuminous matter and blood-corpuscles, hence, its great debilitating effect upon the system, and, if not promptly arrested it is likely to produce *vaginitis*, *pruritus vulvæ*, or *vulvitis*.

Vaginitis is indicated by intense inflammation of the mucous membrane of the vagina. When this affection is present the patient experiences a sense of burning heat, aching and weight in the region of the vagina, violent and throbbing pains in the pelvis, and the discharge is profuse and very offensive. There is also a frequent desire to urinate, and the passage of the urine causes a sensation of scalding.

Pruritus Vulvæ. The discharge irritates the nerves of the external genital parts thus producing an almost unendurable itching. Scratching or rubbing the parts only aggravates the affection. The patient is tormented night and day, is deprived of sleep, and naturally becomes despondent. *Pruritus vulvæ*, in its severest forms, is often developed when the discharge is scarcely noticeable. It is the most common result or accompaniment of leucorrhea.

Vulvitis. This term indicates an inflammation of the lining membrane of the external genital parts. Sometimes the inflammation extends to the deeper tissues, causing great pain, and even suppuration, resulting in the formation of an abscess. The attack is indicated by redness, swelling, and a feverish state of the affected parts, which is quickly followed by a profuse flow of yellow pus, and, in some instances, small ulcers are formed on the affected parts.

Symptoms. The sufferer from leucorrhea becomes pale and emaciated, the eyes dull and heavy, the functions of the skin, stomach and bowels become deranged, more or less pain in the head is experienced, sometimes accompanied with dizziness, palpitation is common, and, as the disease progresses, the blood becomes impoverished, the feet and ankles are swollen, the mind is

apprehensive and melancholy, and very frequently the function of generation is injured, resulting in complete sterility. Exercise produces pain in the small of the back and the lower portion of the spine, and, owing to a relation of the vaginal walls, the womb falls far below its natural position, or turns in various directions according to the manner in which the weight above rests upon it. Ulcers are apt to appear upon the mouth of the womb, the matter from which tinges the discharge and stains the linen. Hysteria is often an attendant of this disease.

Causes. The immediate cause of leucorrhea is either congestion or inflammation of the mucous membrane of the vagina or womb, or both. The exciting causes are numerous. Among others deranged menstruation, prolonged nursing of children, pregnancy, abortions, excessive indulgence in sexual intercourse, uncleanness, piles, uterine ulcers and displacement of the womb, are the most common. In brief, it usually accompanies every uterine disorder which vitiates and reduces the system. During childhood, particularly in scrofulous children, discharges from the vagina are not unfrequent, owing to worms or other intestinal irritation.

Among the organic causes of leucorrhea are ulceration of the mouth or neck of the womb and tumors, which are elsewhere considered.

Treatment. We have dwelt upon leucorrhea because of its prevalence and in order to exhibit the various forms it may assume. These reasons long ago prompted us to investigate it; and ascertaining the derangement to consist in a relaxation of the walls of the vagina, attendant upon depressed vitality, for many years we experimented with various medicines to find those that would exercise specific properties in restoring the tissues involved to a natural condition, thereby arresting the abnormal discharge. Our efforts in that direction have been very successful and our expectations more than realized. The treatment which we shall recommend is rational, based upon the pathological conditions of the disease, and has been attended with the greatest success.

It embraces the use of those general restoratives and specific uterine tonics, so harmoniously combined in Dr. Pierce's Favorite Prescription, a remedy which has achieved unparalleled success in

the cure of this affection and won the highest praise from thousands of grateful women. In many cases it is well to accompany its use with alterative treatment, for which the "Golden Medical Discovery" will be found especially effective. It is an absurd practice to arrest the discharge with astringent injections *alone*. The weak and lax walls of the vagina, as well as other tissues of the system require strength, and this can be gained only by the use of general and special tonics. Appropriate injections as *auxiliary* treatment will very much *assist* in the cure. The "Favorite Prescription" is a special tonic for the affected parts, and the "Golden Medical Discovery" is the best general alterative of which we have any knowledge. They may be taken in alternate doses every day. If the patient is very pale and anæmic one or two drachms of the pyrophosphate of iron may be added to each bottle of the "Favorite Prescription."

The functions of the skin should be kept active by frequent baths, and the patient, if able, should walk or ride in the open air and freely expose herself to the sunshine. If the invalid be too weak to exercise much, she should go out in warm weather and sit in the open air. Sunshine is no less important in maintaining animal, than in supporting vegetable growth and health. The human being, like the plant, sickens and grows pale, weak and tender, if secluded from the sunlight. The apartments occupied should be thoroughly ventilated. Many women are sickly and feeble because they live in badly ventilated rooms.

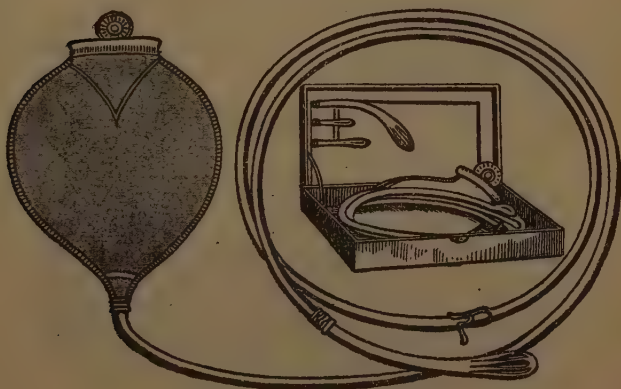
We cannot too strongly urge in this, as in all other chronic diseases peculiar to women, that the bowels be kept regular. Frequent, but small doses of Dr. Pierce's Pleasant Pellets will prove most beneficial. If the vaginal passage is tender and irritable, an infusion, or tea of slippery-elm bark is very soothing, and may be used freely with a vaginal syringe. Whatever injection is employed should be preceded by the free use of Castile soap and warm water to thoroughly cleanse the parts. One part of glycerine to six parts of water is a soothing lotion when there is much tenderness, heat, and pain in the vagina. If there be no great tenderness in the vagina, or if the acute inflammatory symptoms have yielded to the lotions already suggested then a tonic and astringent injection should be employed.

For this purpose a wash made by dissolving one of Dr.

PIERCE'S LOTION TABLETS, in one pint of hot water is a superior application and will not fail to be of great benefit in controlling the disagreeable drain. If your medicine dealer is not supplied with these, mail 35 cents in stamps to us and we will forward a box of the "Lotion Tablets" by return post.

These "Lotion Tablets" have for many years been used in the treatment of obstinate cases of leucorrhœa at the Invalids Hotel and Surgical Institute and their efficiency has been alike gratifying to both patient and physician.

Fig. 17



FOUNTAIN SYRINGE.

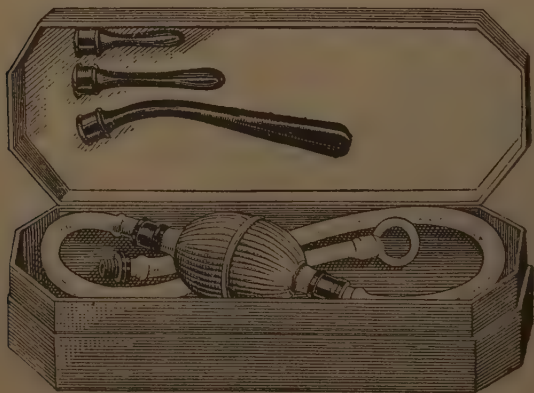
If *pruritus* or severe itching, be also a symptom, the itching will readily yield if the parts be cleansed with Castile or other fine soap and warm water, followed by the application of a compound composed of two ounces of glycerine, one ounce of rose-water, and one drachm of sulphite of soda; or, for the sulphite of soda, two drachms of borax may be substituted. The following lotion is a good one to relieve pruritus: sugar of lead, one-half drachm; boracic Acid, two drachms; glycerine, one ounce; water, one pint; mix. This may be applied to the itching parts, and also injected into the vagina.

How to Use Vaginal Injections. We usually recommend the Fountain Syringe illustrated in Fig. 17, as the most convenient instrument for administering vaginal injections. The

fountains supplied by us are of soft rubber, and have extra nozzles, with which to make rectal, nasal or ear irrigations. There is also a large, long nozzle for vaginal injections. It is channeled so as to permit the free clearing away of the secretions as the douche is employed. The Fountain Syringe can be used without assistance, the flow of fluid is gradual, and with a force that can be varied, by raising or lowering the reservoir, yet is never so great as to be liable to produce injurious effects.

The syringe usually sold with small nozzles or pipes are of little

Fig. 18.



SOFT RUBBER-BULB SYRINGE.

or no value for vaginal injections. In many instances so small a tube will pass readily into the canal of the uterus, and hence there has frequently resulted an injection of a portion of the fluid into the uterus itself, producing severe pain. It is important, therefore, in using the Vaginal Douche to employ only a large tube that has grooves in its surface for the free clearing away of the fluid as it runs from the fountain.

Where it is desired to obtain relief from a congested, inflamed or sensitive and irritable state of the mucous surface, the employment of a large quantity of water as hot as it can be borne, is of the greatest remedial value. It rapidly diminishes the size of the blood-vessels, and aids in bringing about a normal circulation in the parts.

As a rule, in taking the douche with the Fountain Syringe

the rubber bag is filled, and suspended from a nail or hook at a height of from two to five feet above the patient, and the fluid passes through the tube by force of gravity, thus requiring no muscular exercise. The force of the stream depends upon the height of the fountain above the outlet nozzle. It is only necessary that the patient should assume a comfortable position where the fluid which comes from the vaginal canal can flow into a water closet, or any convenient vessel.

After a thorough cleansing of the vaginal surfaces of mucus, by means of the warm or hot water it is sometimes advisable to inject remedial fluids. These injections may readily be made with the fountain or bulb syringe, introducing not less than from two to four ounces. This may be retained sufficiently long to exert its remedial effects upon the mucous surface, which usually takes from five to eight minutes. The hips should be elevated, and the nozzle of the syringe surrounded by a napkin or other similar material upon which moderate compression can be made so as to retain the fluid in the vagina for the necessary period.

When suffering from any uterine trouble, it is necessary to avoid severe fatigue. The amount and character of exercise should be suited to the condition of the patient; while most important of all, the strictest abstinence from sexual intercourse should be observed.

To those who are unable readily to obtain the Fountain Syringe above recommended we will send one of these instruments by mail, post-paid, on receipt of \$2.25.

A Soft Rubber-bulb or Pump Syringe (illustrated in Fig. 18) will be sent post-paid, for \$1.00 or \$1.75, the price varying with the quality and case. These syringes have tubes for both adults and children.

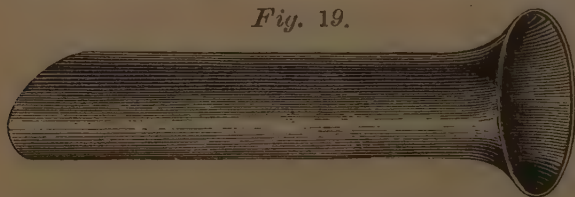
ULCERATION ^{OF} THE UTERUS.

Ulceration is the process by which ulcers, or sores, are produced. It is characterized by the secretion of pus or some fetid discharge and is continued as a local disease through the operation of constitutional causes. It is generally a symptom of other morbid conditions.

Ulcers may form in the *mouth* or *neck* of the uterus, and omitting cancerous ulcers and those of a syphilitic character, which are considered elsewhere, may be classified as *Granular* and *Follicular*.

Granular Ulcer. This variety of ulcerative degeneration is the most frequent, and may exist for some time without

Fig. 19.



The Ferguson Speculum.

exciting any suspicion in the mind of the patient that she is afflicted with any such morbid condition. There is local inflammation, and the mouth of the uterus is uneven, rough, and granular. If an examination be made with the speculum, the mouth of the uterus is often found in a highly inflamed condition.

Figs. 19 and 20 represent two different forms of specula. The one represented by Fig. 19 consists of a tube of glass coated with quicksilver and covered with India rubber, which is thoroughly varnished. That represented by Fig. 20 is made of metal and plated. By using one of these instruments the condition of the mouth of the womb can be distinctly seen.

Follicular Ulcer. When the mucous follicles of the neck of the uterus are inflamed they enlarge and become filled with a fluid having the color and consistency of honey. This secretion, because of the presence of the inflammation, is

not discharged. The follicles; therefore, continue to enlarge until they burst, and we then see in their place the red, elevated, angry-looking eminence, which is called a *follicular ulcer*.

Symptoms. The severity of the symptoms depends upon the character of the ulceration. It may be simple or associated with purulent leucorrhea and hemorrhage. If ulceration be slight and local, few symptoms will be present; but if it be

Fig. 20.



An Expanding Uterine Speculum.

associated with uterine debility, congestion and inflammation of the mucous membrane of the uterus, the discharge will be profuse, and there will be fixed pain in the back and loins, a bearing-down sensation, and great difficulty in walking. The discharge is weakening, as it impoverishes the blood, and thus reduces the strength.

Causes. Ulceration may be induced by any thing that excites inflammation of the lining membrane of the mouth and neck of the uterus. The use of pessaries, excessive sexual indulgence, injuries occasioned by giving birth to children, congestions, enlargements or displacements, may operate as causes.

Treatment. We can not too strongly condemn the practice so popular at the present time with physicians generally, of indiscriminately burning all uterine ulcers with strong caustics, such as nitrate of silver, chromate of potassium, and other similar escharotics, regardless of the condition of the general system. Ulcers of the womb must be healed in the same manner as those

upon any other part of the body. It is an irrational practice to repeatedly cauterize them, expecting thereby to promote healing, while the system is vitiated and the vitality far below the standard of health. Enrich the blood, tone up the system, keep the ulcers cleansed by the frequent use of lotions, and they will generally heal. Caustics often aggravate the irritability and interfere with the healing processes of nature. Ladies should not unnecessarily submit to the exposure of their persons. If they perseveringly employ the treatment which we shall suggest, other local treatment will *very rarely* be found necessary. This modern warfare which physicians are waging upon the unoffending womb is a most irrational practice. Our grandmothers got along very well without exposing themselves to the humiliation and tortures of this new-born empiricism. We do not wish to be understood as undervaluing or denying the necessity, in rare cases, of examinations of the uterus, or as being unappreciative of the aid afforded in such investigations by the speculum, and the beneficial effects of local applications made directly to the womb through that instrument. What we affirm is, that such examinations and applications are, in the practice of most modern physicians, made unnecessarily frequent, resulting many times in lasting injury to the patient.

General Means. As has already been indicated, constitutional treatment should be principally relied upon to cure ulceration of the neck of the womb. Put the system in perfect order and the local ulceration cannot fail to heal. If you have a sore or ulcer upon the leg you very naturally reason that there is a fault in the system at large or in the blood. You do not apply caustics to the sore, but you go to work to restore the blood and system to a normal or healthy condition and as soon as this is accomplished the open and rebellious sore, or ulcer, heals of its own accord. All you have to do locally, to stimulate the ulcer to heal, is to keep it well cleansed by the use of Castile soap and warm water. Just so with ulceration of the womb. Thoroughly cleanse the vagina and neck of the womb once a day by the use of warm water and a little soap, applying this *thoroughly*, as fully described under the head of *treatment for leucorrhea*, by using a solution of Dr. Pierce's Purifying and Strengthening Lotion Tablets as there directed. After thus thoroughly

cleansing and purifying the parts, a piece of soft sponge as large as a hen's egg, to which a bit of cord or strong thread is attached to facilitate removing it, may be thoroughly wet in pure glycerine and introduced into the vagina, pressed against the mouth of the womb, and allowed to remain there for twelve hours, when it should be gently removed by pulling on the attached string. The cleansing lotion of soap and warm water should be used daily and followed by the glycerine application.

Every third night instead of the glycerine tampon apply one of Dr. Pierce's Antiseptic and Healing Suppositories, pressing it well up against the mouth of the womb, and letting it remain there to slowly dissolve. This will give far better curative results than the application of nitrate of silver or other caustics so generally used by physicians. Besides it has the great advantage of being entirely harmless in any condition of the parts to which it is applied. These "Suppositories" are powerfully antiseptic, destroying all offensive odors and have a soothing and at the same time a tonic or strengthening effect upon the neck of the womb and the vagina.

In cases where there is prolapsus or falling of the womb, or anteversion or retroversion, or other displacements the use of the "Antiseptic and Healing Suppositories" will be found to be of great benefit in giving strength to the supports of the womb and its appendages.

If your dealer is not supplied with the "Suppositories," inclose 35 cents in one-cent stamps to us at Buffalo, N. Y., and a package will be sent you, post-paid.

We are fully aware that this thorough and *systematic* course of treatment is slightly troublesome in its application, but what system of treatment that can promise similar success is not?

This course of treatment must be *rigidly* adhered to for several weeks before we can expect a complete cure of the ulcers and the arrest of the consequent leucorrheal discharge.

The Sheet Anchor of Hope. Do not fail to bear in mind that no matter how good the lotions and other local applications may be, your *chief* reliance in all cases of ulceration of the womb, as well as in those of simple leucorrhea, must be upon *thorough constitutional* treatment. To this end Dr. Pierce's Golden Medical Discovery should be taken three times a day in

doses of from one to one-and-a-half teaspoonfuls one hour before each meal, and in the middle of the forenoon, in the middle of the afternoon, and just before retiring for the night, a like amount of Dr. Pierce's Favorite Prescription should be taken. The use of these blood cleansing and invigorating tonic medicines should be kept up *persistently* for several weeks; for you must not expect a perfect cure too soon in a malady that has become chronic and seated. The disease does not become established hastily, but is slow in its inception and progress, and will only gradually and slowly yield to the best of treatment, which we believe we have already pointed out. Followed *earnestly, faithfully* and *persistently*, the use of the means which we have suggested will rarely, if ever, fail.

MEDICAL TREATMENT.

An imaginative poet avers that woman is the link connecting heaven and earth. True it is, we see in her the embodiment of purity and heavenly graces, the most perfect combination of modesty, devotion, patience, affection, gratitude and loveliness, and the perfection of physical beauty. We watch with deep interest the steady and gradual development from girlhood to womanhood, when the whole person improves in grace and elegance, the voice becomes more sonorous and melodious, and the angles and curvatures of her contour become more rounded and amplified, preparatory for her high and holy mission.

The uterus, or womb, and ovaries with which her whole system is in intimate sympathy, render her doubly susceptible to injurious influences and a resulting series of diseases, from which the other sex is entirely exempt. By their sympathetic connections they wield a modifying influence over all the other functions of the system. Physically and mentally woman is man modified, perfected—the last and crowning handiwork of God. When, therefore, this structure so wonderfully endowed, so exquisitely wrought and performing the most delicate and sacred functions which God has ever entrusted to a created being, is disturbed by disease, when the nicely-adjusted balance of her

complex nature deviates from its true and intended poise, the most efficient aid should be extended, in order that the normal equilibrium may be regained, her health restored and her divine mission, on which human welfare so largely depends, be fulfilled. Its importance should elicit the best efforts of the highest type of mind, the ripe development of genius, and the most scientific administration of the choicest, rarest, and purest medicinal elements in the whole range of nature.

A Vast Experience. As the remedial management of diseases of women has entered very largely into our practice at the Invalids' Hotel and Surgical Institute, located at 663 Main Street, Buffalo, N. Y., comprising the treatment of many thousands of cases annually, we have for many years had ample opportunities to so perfect our practice and so improve our remedies that it has enabled us to meet all requirements with increased *certainty* and *exactness*.

Treating the Wrong Disease. Our improved and perfected system of diagnosing, or determining the *exact* nature and extent of chronic affections, which, in most cases, we are able to do at a distance, and without a personal examination of the patient, as will be more particularly explained elsewhere, has enabled us to avoid the blunders so often committed by the general practitioner, who not infrequently treats for long weeks, and perhaps months, those afflicted with chronic ailments peculiar to women, without ever discovering their real and true disease, or condition. Thus, invalid women are often uselessly subjected to treatment for dyspepsia, heart disease, liver or kidney affections, sick headaches, and various aches and pains, as if they were *primary* diseases, when in reality, they are only so many local manifestations, or *symptoms*, of some over-looked derangement, or disease, of the womb. For, as we have already intimated, every organ of the system is in *intimate* sympathy with the uterus, or womb. Any disease, either functional or organic, of this organ, is at once manifest through several, if not all, the sympathizing organs of the system. When we receive a sharp blow upon the elbow, the pain is felt most keenly in our little finger. Just so in diseases of the womb; often the most distress is felt in organs or parts of the system quite distant from the real seat of disease.

On this account, thoughtless, easy-going and ignorant physicians are misled, and very commonly mistake the invalid's disease for some affection of the stomach, heart, liver, kidneys, or other organ, when really it is located in the uterus. Cure the disease of the womb, and all these disagreeable manifestations, or symptoms, vanish. Their cause being removed, the various dependent derangements and disagreeable nervous sensations and sufferings rapidly give way, and vigorous health is firmly re-established.

Time and Perseverance in Treatment Required to Cure. Most chronic diseases of women are slow in their inception, or development, and their removal or cure must necessarily be gradual. Disease that has been progressing and becoming more firmly established for months, or perhaps years, cannot, except in rare cases, be hastily dislodged, and the system restored to perfect health. The process of cure, like the development and progress of the disease, must be a gradual one, accomplished step by step. Often, too, the use of medicines that, if *persisted* in, will prove beneficial and curative, will, for a considerable time, arouse in the system very disagreeable sensations, and many times this leads unthinking persons to become frightened or discouraged, and to quit the treatment best adapted to their cases if only faithfully carried out. In many forms of womb disease, there are organic lesions or changes, that can be repaired only by a gradual process, just as an external wound would heal,—not suddenly, but by a constant, slow filling in and building up, or by the gradual development or growth of one cell upon another. Just as a great breach in a wall would be repaired by filling in brick upon brick, until the defect is effaced, so must these lesions be removed by gradual processes. When fully repaired, the dependent, sympathetic derangements, disagreeable sensations, and all the long train of consequential symptoms are, one by one, abolished.

Not Limited in Our Remedial Resources. It should be borne in mind that, while we recommend, in this little volume, certain courses of treatment for ordinary cases, the remedies mentioned do not by any means embrace all our resources in the way of medicines and other curative agencies, especially for complicated, difficult, or very obstinate cases. In many of the latter class we can send medicines that are exactly adapted

to the case, if the invalid will fill out one of our "Applications for Treatment," which may be found folded in this book, or which will be sent by mail to any address, upon request. In most womb diseases, the chemical and microscopical examination of the urine also furnishes valuable aid in determining the exact condition of the patient, as well as the precise stage of the local organic disease. Full directions for sending such samples are to be found on page 626.

Every case submitted to us, either by letter or in person, receives the careful and deliberate consideration of a full Council of specialists before a decision as to the nature of the malady, or the proper course of treatment to be employed, is determined upon. The great advantage of this system of practice must be obvious to every intelligent, thoughtful person. No experimenting is ever resorted to. The treatment is *specially* and *exactly* adapted to each individual case, requiring such judgement, skill and nicety of discrimination, as could only be acquired by our specialists through long and diligent study, and an experience embracing the treatment annually of many thousands of cases of the chronic diseases which are peculiar to women.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

665 Main Street, Buffalo, N. Y.

TESTIMONIALS.

CYSTIC TUMOR.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. SAVACOO.

Gentlemen—A number of years ago I was taken with a severe pain in my left side below the waist, it would run down to the knee and around to my back. I was in bed about a week at a time. Was doctored for inflammation of pelvis, also the ovaries, but kept growing worse, so, finally, I went to Dr. Pierce's Invalids' Hotel, Buffalo, N. Y., and was told it was a cystic tumor. I was operated upon, had a twelve pound tumor removed, and gained very fast. I took the electrical treatments while there, which was one month, and felt like a new person, my appetite increased, and now I am assisting with my housework.

I feel very grateful to Dr. Pierce and wish every person knew what a grand place the Invalids' Hotel is for the treatment of all kinds of disease.

Yours very respectfully,

MRS. A. T. SAVACOO.

PROLAPSUS OF UTERUS AND LACERATION.

DR. PIERCE; Buffalo, N. Y.:

Dear Sir—Having been operated upon at your Invalids' Hotel and Surgical Institute for prolapsus and for laceration of the cervix and perineum caused by childbirth, I take pleasure in certifying to a speedy and perfect cure. I was ailing with this nine years and as I dreaded an operation kept putting it off, but for three years I kept getting worse, and last August I began losing flesh and health fast; I knew then that something had to be done and that nothing but an operation would cure me so I made up my mind to go to your hospital, and with pleasure I can say I found out an operation was not so bad after all, with skilled surgeons and nurses as you have. In a couple of days the effect of the operation was gone, and it seemed a pity to stay in bed, as I felt so well. On the ninth day I was up a few hours and the eleventh day went down to my meals—a well and very happy woman. I would go through the operation again rather than suffer for one month as I used to. I will gladly answer any sisters who wish to know more about my case, that they may derive the same benefit from your wonderful skill that I have.

Your Invalids' Hotel is finely equipped and provides the best of everything for the welfare and comfort of your patients, and I thank you all for the good care and kind attention given me by the surgeons, nurses and attendants while there. May God bless you, and with the best of feeling towards the Invalids' Hotel and Surgical Institute, I remain,

Yours gratefully,

MRS. S. S. SMITH,

FIBROUS TUMOR.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

My Dear Doctors—My husband had to carry me into your place but in thirty days I walked out of the Invalids' Hotel sound and well.

The tumor that caused my sufferings had gradually developed during a period of several years. The trouble induced an inflammation of the bladder and I had to endure that torment in addition. There were times when I could not touch my feet to the floor. Walking was an agony that I could hardly bear. I faithfully tried good physicians and the various remedies and treatments that were recommended to me, without any satisfactory relief. So I made up my mind to go to your Institution. I am now very thankful. Every one I met with in your place seemed to help me to get well.

You have got not only the most skillful physicians and nurses but they are also the kindest and most agreeable that I have ever met. Your hotel is comfortable, home-like and perfectly clean.

The treatment was wonderfully successful in my case. The removal of the tumor was accomplished without pain. I can highly endorse local anaesthesia instead of using chloroform or ether. My recovery was rapid and I continue in good health and think of you all with thanks and good wishes.

Very truly yours,

MRS. ADELAIDE DEAN.



MRS. DEAN.

"EFFECT WAS WONDERFUL."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I can speak in the highest terms of "Favorite Prescription." I was, for years, a half invalid—not able to do my work and had to hire help off and on. I was dressed, but on the sofa a good part of the time. I had congestion and inflammation, and though I had the best medical aid the trouble was ever present. I got some relief but was never well until at about the age of forty, I took Doctor Pierce's Favorite Prescription. This remedy reached the spot and helped me as nothing else did. I used four or five bottles and the effect was wonderful. It checked hemorrhages that were exhausting my life, and it put me on my feet. I became a well woman—took up my work and for some fifteen years I have had no return of my trouble. It has been a privilege to endorse this remedy to my lady friends, and I now (with a little natural hesitancy) give this statement merely to reach some woman who is suffering in silence and who can by the use of this remedy become well. I firmly believe it to be one's duty to carry the message that brings health and good cheer. I will write to anyone who inquires of my restoration from the life of an invalid to health.

Respectfully yours,

MRS. CORA M. FOX.

WEAK, NERVOUS, FOLLOWING MOTHERHOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main Street, Buffalo, N. Y.

Gentlemen.—I want to thank Dr. Pierce for the great help I found by taking Favorite Prescription and Golden Medical Discovery. I am the mother of nine children and after my last confinement, two years ago, I was very weak and nervous, with a constant pain and bearing feeling. My bowels refused to act naturally and I could get no help from the medicines I was taking. A friend told me of Dr. Pierce's remedies, so I got a bottle of the Favorite Prescription and one of the Golden Medical Discovery and began taking them alternately. Before I had finished these I felt so much better and stronger that I kept on until all feeling of weakness had gone. My bowels acted freely and naturally and I had no more of the nervous indigestion from which I had previously suffered. I think Dr. Pierce's medicines are wonderful and I gladly recommend them.

Very truly yours,

MRS. ANNIE JOHNSON.



MRS. JOHNSON.

"TERRIBLE PAINS IN BACK."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. KOHR.

Dear Sirs—I began taking "Favorite Prescription" last summer for uterine trouble which started two years ago at the birth of a fourteen-pound boy. As soon as I commenced its use I felt a change—felt much better. When I consulted you I had terrible pains in my back, was so run-down that I did not feel like doing anything, and had to wear a supporter to keep the uterus in place, but soon after I started your treatment I found that I could do without it. I thank you very much for your kind advice. I now feel like a new person, and believe that if every woman who is afflicted in like manner would consult Dr. Pierce in time and not wait until she is half dead there would be fewer operations.

My husband used some of your "Golden Medical Discovery," and he never was so well and free from stomach trouble as he is now.

Yours very truly,

MRS. MONROE KOHR.

"SUFFERED UNTOLD AGONY."

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—When I commenced to take your remedies I had a very distressing pain in my abdomen and suffered untold agony at monthly periods. I also had a steady pain and soreness in my right side. After taking five bottles of Dr. Pierce's Favorite Prescription, three of "Golden Medical Discovery," and two vials of "Pleasant Pellets" I can safely say that all my old troubles are gone. Periods are very regular and almost painless. I cannot thank you too much for all the good your medicines have done me. I have recommended them to some of my friends and they too were much benefited by their use. Wishing you success, I am,

Yours truly,

MRS. MATILDA DUMAN.

PROLAPSUS AND RUPTURE.

DR. V. M. PIERCE, PREST. INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:

Dear Sir—I wish to thank you for all the good that you people have done in my case, and will say for the benefit of other ladies, do not neglect so important a thing as a treatment for prolapsus or for rupture, for the sooner you have it done the sooner you will get well. After suffering for twenty-five years I decided to have something done for myself. Through a bad fall down stairs I had prolapsus and ruptures come on which made it necessary to have surgical treatment. It was very successful, and now I am really sorry that I did not have it all done years ago. Of course, I had known about Dr. Pierce's Sanitarium for a good many years, but after I had made up my mind to go under treatment I began to look around for a place to go to have it done. I found I had more faith in Dr. Pierce's Invalids' Hotel and Surgical Institute than any other, so I went to Buffalo the eighteenth of August, 1915, and returned home after one month.

I will cheerfully answer any lady's inquiry if she will send a self addressed, stamped envelope for further particulars.

Yours very truly,

MRS. ELIZABETH A. SHAW.



MRS. SHAW.

SUFFERED GREATLY WHEN DEVELOPING INTO WOMANHOOD.



MRS. KLASSY.

Dr. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Doctor—When I was a young girl, just developing into womanhood, I suffered with periodical pains. Dr. Pierce's Favorite Prescription was so highly recommended to me that I took a couple of bottles and can honestly say that it gave me wonderful relief and proved extremely beneficial as a tonic. I take pleasure in recommending it to all young girls who suffer with any sort of female weakness.

Respectfully yours,

MRS. CHAS. KLASSY.

THREATENED MISCARRIAGE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—One year ago last August I was on the verge of a miscarriage. We called a doctor and I got relief for awhile, but the trouble soon came back in just the same way and continued five weeks. I got weak and nervous and was in an awful condition. A friend of mine advised me to try Dr. Pierce's Favorite Prescription, and I did so. The first bottle cured me, but I continued taking it and it did me lots of good. Previously I always suffered so, but with the last baby I had practically no suffering. I was sick but a short time. I can highly recommend Dr. Pierce's Favorite Prescription to prospective mothers.

Yours truly,

MRS. CORA COCHRAN.

TIRED OUT—NERVES UNSTRUNG— SLEEPLESS.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I am happy to say that Doctor Pierce's Favorite Prescription has proven of the best of benefit for my ill health. My entire constitution was very much run down, besides trouble peculiar to women. I was completely tired-out the whole time, ambitionless, did not care to do anything about the house, and could not stand any excitement. My unstrung nerves also made me lie awake at night. The "Favorite Prescription" was the one thing needed to give me good health.

Very gratefully yours,

MRS. H. J. MILLER.



MRS. MILLER.

PRAISES PROPRIETARY MEDICINES.**"Was about Bedfast for Two Years."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I know your medicines helped me wonderfully. I was so weak and nervous I could not sleep. Had a very poor appetite. Had such an aching between my shoulders and such dreadful headaches. My tongue would be heavily coated every morning and would get so dry. I am 45 years old. Have been having "change of life." I doctored a great deal but your medicines helped me more than all the doctors. I took six bottles of "Favorite Prescription" and three of "Golden Medical Discovery." I can now sleep good at night. My tongue is not coated and your medicines have removed many of my symptoms. I know if I had taken six bottles more I would have been cured. I was about bedfast for two years, now I do all my work and attend to my garden and chickens. I cannot praise Dr. Pierce's medicines too highly.

Yours respectfully,

Mrs. GEORGE EWELL.

CHANGE OF LIFE.

V. M. PIERCE, M. D., Main Street, Buffalo, N. Y.:

Dear Sir—While passing through the critical time of life, I was about given up by all the doctors, but they told me that probably an operation would benefit me so my husband called a specialist; he said I was too far gone to operate—that I had about two weeks to live. I had been advised by a friend to try Dr. Pierce's Remedies, and as a last resort I sent for the "Favorite Prescription," "Golden Medical Discovery," "Pleasant Pellets" and "Lotion Tablets." Inside of three days the discharge ceased, which all the doctors had failed to stop. After a faithful use of the medicines I am, after five years, a living monument to God's mercy and Doctor Pierce's medicines.



Mrs. WATSON.

My daughter and I are now both taking the "Medical Discovery" for the lungs. I have taken three bottles and the pain in my lung has ceased and the cough is gone. I intend to keep on taking it. I thank God that I

heard of these medicines; they are also helping my daughter.

Respectfully yours,

Mrs. ALICE WATSON.

DOCTORED IN VAIN WITH DOCTORS.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—After seeking in vain for health at the hands of doctors, I began treatment with Dr. Pierce's Favorite Prescription. When I first began I was miserable. I was nervous and low spirited, also had female trouble. I could not sleep; in fact, I was just about as weak and low as I could be. I could scarcely drag myself around. Often despondent and with no inclination to do work of any kind. But with the aid of the "Prescription" I am once more able to enjoy life. I can work without pain or that weak and tired feeling. I can certainly give Dr. Pierce's medicine all the recommendation necessary.

Very truly yours,

Mrs. D. E. HARSHBARGER.

INFLAMMATION AND IRREGULAR PERIODS.**Gained 39 Pounds.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Enclosed you will find 31 cents in postage stamps for which please send me the People's Common Sense Medical Adviser with the French covering.

I have used Dr. Pierce's Favorite Prescription and have been greatly benefited. I suffered about six years with inflammation and irregular periods, but gave Dr. Pierce's Favorite Prescription about an eighteen months' trial and can say with great confidence that I am sound and well and weigh 168 pounds. Ten months ago I weighed but 129 pounds.

Truly yours,

MRS. WILLIE TANSIL.

ESCAPED AN OPERATION.**"Cured Me Without the Aid of Any Other Medicine."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Since I last wrote you and your staff of Physicians I feel like a new woman. In six long years I had scarcely seen a well week and continually grew worse. On Feb. 17th, 1907 I was married and shortly afterward took sick. The doctor who attended me did not seem to know what the trouble was. He pronounced my case Bright's disease and later on said I had vaginitis in its worst form. I got worse every day. Finally he said he did not know what was the matter with me. He suggested an operation, but I was too weak and too much afraid and I would not agree to it. I had severe attacks of pain during which I felt that I would be only too glad to die. I would willingly have given any price for a dose of medicine that would ease the pain. I tried the favorite of many women but it did me no good. At last my husband said he "believed Dr. Pierce's Favorite Prescription was what I needed." He went to the drug store and got a bottle of it. It proved to be good so I tried the second bottle and was then able to be about. In all I have taken ten bottles of your medicines; three of the "Golden Medical Discovery" and seven of the "Favorite Prescription."

Had it not been for these great medicines I believe my days would have been numbered. "Favorite Prescription" now stands very high in the estimation of my friends who knew nothing of its merits until I tried it. It has cured me without the aid of any other medicine. I believe that any sufferer from female diseases, who persistently takes the "Favorite Prescription" and "Golden Medical Discovery," will be cured or at least greatly benefited.

With best wishes, I remain,

Yours truly,

MRS. L. O. POWELL.

SUPPRESSED MENSTRUATION.**"Never Felt Better in My Life."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I can cheerfully recommend your valuable medicine, the "Favorite Prescription," to any one suffering as I have with suppressed menstruation, pains and dizziness. Have had no appetite whatever. Doctored with one, then another, with no relief; so one evening I read of your medicine in the newspaper and thought I would try it, and I did. I have taken only three bottles of your "Favorite Prescription," and never felt better in my life. It has done so much good I have told all my suffering friends of your valuable medicine and will praise it highly wherever I may go. I would enjoy talking to Dr. Pierce and telling him all he has done for me with his grand medicine.

Thanking you, and wishing you all the success in the world, I am,

Respectfully yours,

MRS. A. R. SNYDER.

PELVIC CONGESTION.

DR. V. M. PIERCE, PRESIDENT, INVALIDS' HOTEL, 663 Main St.,
Buffalo, N. Y.

Dear Sir—My first baby was born May 20, 1893. I was left in bad condition and doctored with the very best doctors I could find. All gave me but little encouragement and some told me I could not get well.



MRS. HAWKINS.

I had doctored several years and found no relief until my husband studied the Common Sense Medical Adviser and advised me to go to the Invalids' Hotel. After trusting in the Lord for strength, and hoping that I would be able to get there, I finally made up my mind to go to Buffalo. I arrived at the Institution about April 1, 1908, so tired and worn out that I could hardly drag one foot after the other. After being examined by the Specialists I was advised to remain there. They found me in bad condition, suffering from pelvic congestion, the after-effects of childbirth, and found that an operation was necessary. I remained in the hospital for several weeks, which I have never regretted. With the excellent care and kind treatment of both the doctors and the nurses my strength came back. When

I went to the Invalids' Hotel I weighed only 110 pounds. I have done all my work—and hard work, too, since,—and I now weigh 150 pounds. I have two boys born after I was in Buffalo for treatment. One is nine years old, and the other six years. I really can't express in words what I owe to all associated with the Invalids' Hotel for the benefit I received and the kindness and good care given me. I have thanked them many times for it. I think the Invalids' Hotel is God's gift to the sick and afflicted.

Yours very truly,

MRS. MELMORE HAWKINS.

"RECEIVED GREAT BENEFIT."

DOCTOR V. M. PIERCE, Buffalo, N. Y.

Dear Sir—Three years ago I bought several bottles of Doctor Pierce's Favorite Prescription and some of the "Lotion Tablets" and "Healing Suppositories," using them in connection with the "Favorite Prescription" for weakness peculiar to women of my age. I received great benefit from the combined use of these excellent remedies and am glad to commend their use to other women suffering as I did.

Yours very truly,

MRS. W. A. HAZELTON.



MRS. HAZELTON.

CHANGE OF LIFE.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I used Doctor Pierce's Favorite Prescription. I had the trouble peculiar to women of forty-five. The "Favorite Prescription" used as directed proved just the right medicine. I took about four bottles and each bottle seemed to do more good than the last. It helped me so much that I have never ceased to speak highly of it. I also used "Golden Medical Discovery" at the same time and found it equally good.

Yours respectfully,

MRS. MARY GREGG.



MRS. GREGG.

PALPITATION OF HEART, DIZZY, NERVOUS, AT CRITICAL TIME OF LIFE.

DOCTOR V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Your name I always associate with "Favorite Prescription," as it was the means of bringing me safely through the critical time of life. When the change began to be perceptible I knew that I was not prepared to undergo it, and knowing of the virtues of "Favorite Prescription" I soon supplied myself with it and took it until I was firmly convinced that all danger of ill consequences were past. My general health and strength were very low and I was too weak to do my little household duties. The nervous system was so depressed that I would fairly shake and tremble, with palpitation of the heart and dizziness, and what seemed sparks of fire before my eyes. My heart would feel so queer and nerves were so unstrung that I did not rest well through the night, and the smothering would not allow me to lie flat in bed. My husband and family were greatly alarmed over my state. I gladly say that the "Prescription" restored me to full health.

Respectfully,

MRS. L. C. 'ELROD.

"GOOD EXPERIENCE WITH 'FAVORITE PRESCRIPTION.'"

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main Street, Buffalo, N. Y.:

Gentlemen—I have had a good experience with Doctor Pierce's Favorite Prescription. Once when I had over-worked from nursing small children through scarlet fever, I was so weak I had to be carried up and down stairs. I was led to use "Favorite Prescription," and by keeping it up for some time got well and strong again. I took it over a year. At other times I used "Favorite Prescription" for the troubles preceding childbirth. I used it a number of times for this purpose and always with the best results.

Respectfully,

MRS. E. E. STUCKE.



MRS. STUCKE.

A STEADFAST FRIEND OF "FAVORITE PRESCRIPTION."

MRS. SUTHERS.

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I received your "Medical Adviser" and was more than pleased with it.

I herewith send you my heart's best thanks for what your "Favorite Prescription" has done for me. I advise all women who suffer from female trouble to try your medicine. I will never use any other medicine but Doctor Pierce's Favorite Prescription for it is the only remedy on earth for woman's ills. May God bless you and your valuable medicine. I wish that my testimony might benefit some other poor sufferer.

Yours ever,

MRS. MARY G. SUTHERS.

"EVERY YOUNG GIRL SHOULD USE IT."

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—When I was fifteen years old, my mother being dead, a lady insisted on my using Doctor Pierce's Favorite Prescription. I cannot tell you how glad I was of this and how I wish every young girl would use it at this time. I am now forty-five years of age, have had thirteen children, seven of whom are well, strong boys and girls. I used "Favorite Prescription" and "Golden Medical Discovery" as well as "Pleasant Pellets," according to directions, both before and after the birth of the first four children and had very little trouble. Occasions come now when I turn to Doctor Pierce's remedies for help and they never fail. The "Pleasant Pellets" have been a "stand-by" with me for years for sick headache, constipation, etc. They do all you claim for them.

Yours respectfully,

MRS. FRANK H. MILBURN.

UTERINE DISEASE AND GENERAL WEAKNESS.

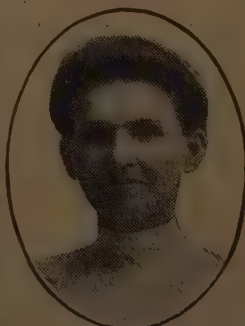
DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I thought I would write you in regard to what your medicines have done for me. I have used them for thirty years for uterine trouble and general weakness with the very best result, and they have saved me hundreds of dollars in doctors' bills. I buy five dollar lots of the "Favorite Prescription" and "Golden Medical Discovery" and take them together. I never was disappointed in your remedies and take pleasure in recommending them to any suffering lady. I am now almost fifty years old. The "change" took place at forty-five; I took your medicines, both kinds, and it passed very easily and left me fat and healthy. I feel like a young girl.

"Now doctor, if you care to, you may have this testimony of mine to advertise, for I must thank you for manufacturing a medicine that saves us from suffering and from doctors' bills. I also send my picture, and if any lady cares to write me I will gladly tell her more about the good work of your medicines.

Yours truly,

MRS. DONA M. MARTIN.



MRS. MARTIN.

"LIFE WAS A MISERY."

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:



MRS. DICKOVER.

Dear Sir—I had painful periods for a number of years and for the past three years was so bad that life was a misery to me. The doctors told me I would have to go to a hospital before I would ever be better. A year ago this winter and spring I was worse than ever before. Each time I suffered like one in labor (I am the mother of six children). I was so bad for five months that I knew something must be done, so I wrote to Dr. Pierce, telling him as nearly as I could how I suffered. He outlined a course of treatment which I followed to the letter. I took two bottles of "Favorite Prescription," one of "Golden Medical Discovery" and a fifty-cent bottle of "Smart Weed" and have never suffered much since. I wish I could tell every suffering woman the world over what a boon Doctor Pierce's medicines are. There is no use wasting time and money doctoring

with anything else or anyone else.

Yours,

MRS. B. F. DICKOVER.

TRIED SEVERAL OF DOCTOR PIERCE'S REMEDIES.**Found Relief Every Time.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I thank you for inventing a remedy like the "Favorite Prescription" and also the "Purifying Lotion Tablets." I took three bottles of the "Favorite Prescription" this summer and a healthy baby was born to us the eighth of September. I was sick only about three hours. Had leucorrhœa for about five years and used two boxes of the "Lotion Tablets" which just about cured me, and I know if I had used more they would have entirely cured me. Also used three bottles of your "Golden Medical Discovery" which helped my stomach. This had bothered me about a year. Was so weak when I began using your medicines I could hardly do my own work, and now am doing the work for my husband, two children and myself. If you can arrange this in a testimonial fit to print you may do so.

Yours truly,

MRS. GEO. SOUDERS.

PERFECTLY SATISFIED.

DR. V. M. PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I took Doctor Pierce's Favorite Prescription while in a delicate condition and have a fine healthy daughter. I read of this medicine in an advertisement and decided to take it. I am perfectly satisfied with it.

I often take Doctor Pierce's Pellets for constipation and biliousness and I think they are splendid for these ailments.

Yours respectfully,

MRS. CHAS. JONES.



MRS. JONES.

FRAIL AND DELICATE AFTER BIRTH OF CHILD.**Took "Favorite Prescription." Gained Forty Pounds.**

V. M. PIERCE, M. D., No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I do not believe that I would be alive to-day were it not for Dr. Pierce's Favorite Prescription. I was so frail and delicate that I had to break up housekeeping and go back to my folks for care after the arrival of my first child. Several doctors claimed that I had tuberculosis. I coughed continuously. I was getting quite discouraged when one of my neighbors told me how greatly she had been benefited by taking the "Prescription" when she was just down and out, and she urged me to try it. It was simply marvelous the relief that I obtained almost from the very start. I increased in weight forty pounds within a year and my health has been perfect from that time. I have since become the mother of three strong, healthy babies and am so well and strong myself that it would be hard to convince anyone who did not know me before that I was so frail and delicate previous to taking the "Prescription." I am glad to be able to give this testimonial if it will cause other women who feel as though life is scarcely worth living to give Dr. Pierce's Favorite Prescription a trial.

Yours with respect,

MRS. LOUISE GAIN.

A WONDERFUL ENDORSEMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I suffered for more than seven years with a very complicated form of female trouble accompanied with nervous prostration. After doctoring with six physicians, was informed that unless an operation was performed I would be an invalid all my life. Hearing of the wonderful cures effected by Doctor Pierce's remedies, and believing that there must be a cure for almost every ailment, I determined to make one more effort. I wrote to Doctor Pierce, and I will never forget his kind advice, telling me to follow his instructions faithfully and not submit to an operation. I commenced to improve after six weeks' treatment, and in five months my improvement was so noticeable to friends that they began to inquire about my method of treatment. I was pleased to tell them of the wonderful means of cure that I had most fortunately found, and, as so many ladies applied to me for information regarding Doctor Pierce's world-famed medicines and his plans of treatment, I felt in duty bound to give them the benefit of my experience, so, told them the facts. The large number of positive cures effected by Dr. Pierce's remedies alone, used by my recommendation, seemed, in one year's time,



MRS. HARRISON.

nothing short of a miracle. I couldn't have believed it had I not seen the parties and known the facts.

Truly yours,

MRS. H. HARRISON.

TOOK SEVERAL DIFFERENT MEDICINES BUT GOT NO RELIEF.**Three Bottles of "Favorite Prescription" Completely Cured Her.**

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Doctor Pierce's Favorite Prescription did remarkably for me. About three years ago, during the change, I got in very bad condition and my suffering was intense. I was weak and run-down. My strength was all gone. I could not walk a block. I took several different medicines but got no relief. Finally, I began taking "Favorite Prescription" and three bottles completely cured me and my health has been splendid ever since. This is the only medicine for weak women and I do highly recommend it. I also used Doctor Pierce's Golden Medical Discovery with equally as good results.

Yours truly,

MRS. LOUIS BELL.

A SEVERE CASE.

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I had a very severe trouble caused by child-birth. I was weak, could not eat, and got very thin. I was almost ready to give up ever getting better. Some of my relatives had taken Doctor Pierce's medicine and I remembered what it had done for them. I took two bottles of "Favorite Prescription" and felt as well as ever. I could eat, my strength came back, and I was a well woman. I am a great believer in Doctor Pierce's medicines and always recommend them to my friends.

Yours respectfully,
MRS. S. C. FOSTER.

MRS. FOSTER.

FEMALE TROUBLE FOR OVER TWENTY YEARS.

Been Bed-ridden for Seven Months.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—It is with much pleasure I write to you. My health was gone and my nerves were so bad at times I would jerk and tremble till my flesh would feel as though I had been pounded. Suffered from female trouble for over twenty years. I have taken two bottles of Doctor Pierce's Favorite Prescription, about ten of "Golden Medical Discovery" and used six boxes each of "Lotion Tablets" and "Suppositories." I had been in bed nearly all the time for seven months and had not found anything that gave me any lasting benefit until I commenced taking your medicines. Now I am able to go around and do an ordinary amount of house-work. I can never thank you enough for being so good to answer all inquiries. I shall always be ready to speak a good word for you and your medicines. There are some of my friends using your medicines because they know how much good they have done me.

Yours truly,
MRS. JOS. RICKS.

FIBROID TUMOR—HEMORRHAGES.

DOCTOR PIERCE, INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:

Dear Sir—The successful removal of a large fibroid tumor at the Invalids' Hotel places me under great obligations to your Specialists, and I feel it my duty to give this testimonial that other women, similarly afflicted, may not hesitate to come to you for help.

Before going to Buffalo, I had hemorrhages every two weeks which gradually became worse until it was constant. Knowing that you had been so successful in your surgical operations, I finally decided to go to you.

Upon my arrival, a blood test was made, and it was found that the quality was reduced far below fifty per cent. I was in an anemic state, having lost so much blood. After a careful preparation to build me up, I was then able to stand the effects of the anaesthetic and the shock of the operation, which I could not have without the full supply of rich blood.

The second day after the operation I was able to sit up without any great discomfort, and in a short time was able to take my journey alone to my home here in Wisconsin, which I reached safely and comfortably.

I feel that the surgeons at the Invalids' Hotel saved my life, as my life's blood was fast ebbing away.

It is my wish that this be published, as I do believe the lives of many women would be saved if they were to take the same steps for relief that I did.

Yours respectfully,
MRS. PETER TRAPP.

MRS. TRAPP.



FEMALE WEAKNESS.

MRS. GENTRY.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—When I began taking Dr. Pierce's Favorite Prescription and "Golden Medical Discovery" I had a woman's trouble and was run down. I took six bottles of each to build up my health, and I am glad to testify that these two remedies cured me for I have not been bothered with anything of the kind since. Later on I had kidney and bladder trouble and by taking these same remedies I became cured of this also. These medicines were grand.

Very respectfully,

MRS. J. W. GENTRY,

ULCERATION AND CONGESTION OF UTERUS.

"Your Medicine Has Been A Great Blessing To Me."

Gentlemen—Your medicine has been a great blessing to me. When I began taking "Favorite Prescription" I had suffered about eight months with ulceration and congestion of uterus. I suffered a great deal of pain. After taking about six bottles of "Favorite Prescription" and using five or six boxes of the "Suppositories," I did not feel like the same person. Have been in good health ever since.

You can use this as a testimonial from me if you wish. I have no photo that I can send. You will see that my letter was written some time ago but was put one side and not mailed. Please excuse my neglect.

With many good wishes, I am,

Yours respectfully,

MRS. JENNIE WEDGE.

"IT WILL SURELY HELP."

DOCTOR V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I always found Doctor Pierce's medicines to be good. Some time ago I was sick—was laid up about three months with a very bad case of weakness peculiar to women. I took "Favorite Prescription" and "Pleasant Pellets" and got immediate relief, and in about four months I was well as ever. It is a wonderful medicine; it saved me lots of suffering and doctor bills, too. I hope my testimony will induce others who are suffering with woman's complaint to try this medicine—it will surely help them.

Yours respectfully,

MRS. JULIA HICKOK.



MRS. HICKOK.

TWENTY-TWO POUND TUMOR.**Patient Returned to Her Home in Two Weeks.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is quite a few months since I wrote you concerning my health. I am getting better and stronger every day. You will remember my case. You removed a large tumor that weighed over twenty-two pounds and in two weeks' time I went home. I am truly thankful for your skillful operation, with hardly any pain, and the kind nursing I received afterwards. I can truly recommend the Invalids' Hotel to all afflicted as I was. The kindness of the physicians and the kind attention of the nurses and attendants made it seem like a pleasant home. We were so kindly received when we went there that I felt at home at once. All my neighbors and friends here thought I would never come back alive. They were all surprised when I came back so soon, knowing how long I had suffered. I feel like a different person—have not felt so well in twenty years. I surely will recommend the Invalids' Hotel to all the



MRS. MACKENZIE.

suffering people I meet. I feel that I cannot say enough for it. The kindness shown was commendable and the beauty and cleanliness of the place exceeded my expectations. Thankfully yours, MRS. JOHN MACKENZIE, SR.

WOMB TROUBLE.**"Gained Twenty Pounds."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For five years I suffered with womb trouble, but after using ten bottles of Dr. Pierce's Favorite Prescription I have enjoyed splendid health and gained twenty pounds. I most heartily recommend your "Favorite Prescription" to all sufferers from similar troubles.

Many thanks for this wonderful remedy—the "Woman's Friend."

Yours truly,

MRS. DORA CHILTON.

UTERINE DISEASE.**"Suffered About Four Years."**

DOCTOR PIERCE, Buffalo, N. Y.:

I can cheerfully recommend your valuable medicines, "Favorite Prescription" and "Extract of Smart-Weed" to anyone suffering from uterine disease and painful menstruation, from which I suffered for about four years. Seeing an article in your little Memorandum and Account Book, I thought I would try your remedies. After taking two bottles of each I felt quite a change. Had more strength and felt more like working, and, by the time I had taken four bottles I felt like a new person. Do not have any pain during periods and feel just fine. I gladly recommend Dr. Pierce's medicines to all suffering as I did.

Hope my testimony may benefit some other sufferer.

Yours truly,

MRS. A. PUCHERT.



MRS. PUCHERT.

FEMALE TROUBLE. INDIGESTION.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—About one year ago I was taken sick. Had indigestion and was in a very bad condition. I was bed-fast. Finally, the doctor got me up and that was all he could do. I could only be up a short time when I had to lie down again. The doctor said, "Let me tell you, you are a very sick woman." The pain was so severe I could do nothing but moan. The doctor said it was female weakness, but he could not help me. He thought he would have to take me to the hospital and operate. I wondered what in the world I could take that would help me. I tried about a half dozen remedies—none did me any good. I thought toward spring I would have to make sale of my farm stock and quit the farm, but I got a bottle of Dr. Pierce's Favorite Prescription and one of "Golden Medical Discovery," and immediately I noticed my nerves began to improve and the pain in my sides left me. I got two more bottles and after that I began to improve, and this last year I have been good and strong, all due to Dr. Pierce's wonderful medicines. I can't praise them enough. If it had not been for them I am sure I would be in my grave.



MRS. LIVINGSTON.

Yours sincerely,

MARY LIVINGSTON.

FEMALE WEAKNESS.

"Did Not Care Whether I Lived or Died"

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—My trouble was female weakness. I suffered untold misery at times of menstruation, and was weak and languid all the time. Did not care whether I lived or died. A friend advised me to take Dr. Pierce's Favorite Prescription and "Golden Medical Discovery," so I commenced taking the two medicines in August. Have taken them ever since. It is now January, and I feel like another woman; menstrual periods regular and I have no misery, as before. I am so grateful to Dr. Pierce for his "Favorite Prescription" and "Golden Medical Discovery," I have been recommending these medicines to all suffering women around here and would be glad to write to sufferers afar. I cannot thank Dr. Pierce enough for his advice also. I feel well and sound to-day. My prayer is that Dr. Pierce's medicines will reach all the suffering women. I remain,

Yours truly,

Mrs. CHAS. YANTES.

NERVOUSNESS AND FEMALE WEAKNESS.

Cured With Six Bottles of Dr. Pierce's Medicines.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—Some four months ago I began feeling badly; always had a fair appetite but nothing seemed to do me any good. I grew weaker all the time; was very nervous and had female weakness so I could hardly be around at all. I was very miserable all the time. About three months ago I wrote to Dr. Pierce and stated my troubles and since then have taken three bottles of his "Favorite Prescription" and three of "Golden Medical Discovery" and three vials of Dr. Pierce's Pleasant Pellets. I keep these on hand. I also used Dr. Pierce's Lotion Tablets, and am now feeling well and able to do my own work—which I consider is a great deal when I think of my past suffering. I take great pleasure in recommending Dr. Pierce's medicines to my friends.

Yours respectfully,

Mrs. JOSEPH B. GREEN.



MRS. GREEN.

FIBROID TUMOR.

DR. PIERCE'S INVALIDS' HOTEL,
663 Main Street, Buffalo, N. Y.



MRS. TABLER.

Gentlemen—There is no endorsement that the Faculty of your Institute could wish that I would not willingly give. I realize that I owe not only my good health but my life to the wonderful treatment received at the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., and would earnestly recommend any person needing the best medical or surgical attention to go for relief and cure to your grand Institution in Buffalo. Accept the grateful thanks of my husband and myself for your good care and great kindness to me during my stay at your Hotel. I wish you all great success. Very respectfully,

MRS. HENRY TABLER.

SUPPRESSION FROM TAKING COLD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main Street, Buffalo, N. Y.

Gentlemen—When my daughter was between fifteen and sixteen years of age she caught cold which caused suppression for a whole year. She was under a doctor's care all that time but only seemed to be drifting away from us. One of my neighbors advised me to give her Dr. Pierce's Favorite Prescription and the first bottle relieved her of the congestion and started her on the road to recovery. Five bottles restored her to perfect health, which she still enjoys, never having the slightest sign of feminine trouble since.

Dr. Pierce's Favorite Prescription is worthy of the highest praise I can give it and I do not hesitate to recommend it at every opportunity.

Very truly yours,

MRS. MARY LEARY.

MOTHERHOOD.

DR. PIERCE, 663 Main Street, Buffalo, N. Y.

Dear Sir—I can highly recommend Dr. Pierce's Favorite Prescription for it has been of wonderful help to me while bringing up my family. I have taken it during expectant periods when in need of a tonic and found it to be excellent. My greatest experience with the "Favorite Prescription" was after a miscarriage. I was having trouble that the doctor was unable to overcome but when I commenced to take the "Favorite Prescription" there was a marked improvement in my general condition, the hemorrhages ceased and I had no further pain or distress. I took several bottles of "Favorite Prescription" and was restored to perfect health. Since that time I have had no hesitancy in taking Dr. Pierce's Favorite Prescription whenever in a run-down or nervous condition and always found it all that could be desired as a tonic and nerveine.

MRS. SADIE LOVETT.



MRS. LOVETT.

DR. PIERCE'S FAVORITE PRESCRIPTION.**"The Best Nerve Tonic I have ever Taken."**

MRS. WARNER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.

Gentlemen:—Dr. Pierce's Favorite Prescription is the best nerve tonic I have ever known. I suffered a severe nervous breakdown—was too nervous to sleep, my appetite was poor, I got very weak, had dizzy spells and felt badly all over, but after taking Dr. Pierce's Favorite Prescription my nerves were better and I got strong and felt much improved in health in every way. I consider the "Favorite Prescription" the best woman's medicine that can be had and if more women would take it there would be fewer ailing ones.

Very sincerely yours,

MRS. ALTA A. WARNER.

CURED WHEN OTHERS FAILED.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Before the birth of my child I took Doctor Pierce's Favorite Prescription and found it to be very good. Then about three years ago I got sort of run-down and in a very weakened condition so I took it again and it cured me in a very short time when other medicines had failed. I can recommend this medicine to be one of the best, if given a fair trial."

Yours respectfully,

MRS. MARY DUTTON.



MRS. DUTTON.



MRS. WILLIS.

WAS THIN, WEAK, COULD NOT WORK.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—Doctor Pierce's medicines did me more good than anything I have ever taken. I had woman's weakness quite bad and I also had a cough. I was ailing for about four years. Was thin, could not eat or work, in fact, I was all run-down in health. I did not get the relief from the doctor that I should. I got Dr. Pierce's Favorite Prescription and "Golden Medical Discovery," took them together, and four bottles were enough—I was well, feeling fine. I have always been healthy ever since that time.

Yours with respect,

MRS. A. WILLIS.

A COMPLICATED AND OBSTINATE CASE.**"Friends Had But Little Hope of My Recovery."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I firmly believe there is not a medicine on the market to-day that will do more for women who are broken down in health than Doctor Pierce's

Favorite Prescription. At one time my whole system became run down; it seemed as though every part of my body was affected in some way. I had suffered untold agony at every monthly period ever since first menstruation, child-birth could not be much worse. I suffered with falling of womb, also leucorrhœa. Would have sharp pains in left side around heart and under shoulder blade. My stomach was ulcerated and was so sore I could not bear my clothes to touch it. I had smothering spells and was so short of breath for three or four months that I lived on just crackers and milk and a prepared food, and ate very little at a time. I had palpitation, was very nervous, also constipated, and had piles. I tried many patent medicines and also most every doctor in town, but would receive a little benefit at first and then be just as bad as before or worse. I was very despondent and felt that I never would have health. Became so poor and weak that my friends had but little hope of my recovery. I read one of your pamphlets, and felt that your medicines were just the thing for me, and got a bottle of Doctor Pierce's Golden



MRS. GEHRT.

Medical Discovery, one of "Favorite Prescription," also a package of Doctor Pierce's Pleasant Pellets, and began taking the remedies according to directions, and *each dose* I asked God to bless to the good of my body. In a week there was a decided improvement in my condition. After taking seven bottles of "Golden Medical Discovery" and seven of "Favorite Prescription" and one vial of "Pleasant Pellets" I feel entirely cured. I hope my testimony will be the means of bringing perfect health to many a weak woman. Wishing you much success in the future, I remain,

Yours truly,

MRS. MYRTLE GEHRT.

CHANGE OF LIFE.

Dr. V. M. PIERCE, Buffalo, N. Y.:

Dear Sir—At the change of life I was in a miserable condition. I had pains all over my body and would have hot flashes and dizzy spells. The doctor's medicines gave me so little relief that I started to take the "Favorite Prescription," which my sister had taken with excellent results, and in a very short while my pains left me and I was feeling well and strong. My general health has been so greatly improved ever since that critical period has been passed that I feel exceedingly grateful for what Dr. Pierce's Favorite Prescription has done for me, and I take pleasure in recommending it to other women.

Yours very truly,

MRS. EMMA GRIMES.

FEMALE WEAKNESS.**Owes Her Present Good Health to****"Favorite Prescription."**

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—I used Dr. Pierce's Favorite Prescription for female weakness before I was married and it cured me. I only took two bottles. After I was married I took it again before and after the birth of my children. I was in bad condition and it did me a lot of good. My children are healthy and strong and I am whole and hearty, and I think I owe my good health to Doctor Pierce's medicine. I have recommended it to many of my friends who have also found it beneficial. It is a splendid medicine.

Yours respectfully,

MRS. WM. DENNIS.



MRS. DENNIS.



MRS. ISELEY.

"SUFFERED TERRIBLY."

DOCTOR PIERCE, No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—When I was entering womanhood I suffered terribly. Was in agony each month until I began taking Doctor Pierce's Favorite Prescription. I had relief before I finished the first bottle of medicine, and by taking it at intervals for about two years I was able to keep myself free from this pain, and finally, though gradually, I got entirely well. I feel very grateful for the relief this medicine gave me and I have often recommended it to young girls entering womanhood, and it has helped them.

Yours respectfully,

MRS. LULU ISELEY.

COMPLICATION OF DISEASES.**"Had Miserable Health For Twenty-five Years."**

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I thought I would write and tell you that I for one can highly recommend your medicines as they have done me much good. I have had ovarian trouble, inflammation and congestion of womb, also nervous prostration, bronchial trouble and chronic liver trouble for which I have taken eighteen bottles of Dr. Pierce's Favorite Prescription and six vials of Dr. Pierce's Pellets, two bottles of "Extract of Smart-Weed," also used some of the "Lotion Tablets" and two boxes of "Healing Suppositories." I can speak highly of the good they have done me. I had miserable health for twenty-five years but felt that I was helped in a short time after taking Dr. Pierce's medicines. I would not forget to say the counsel I received by writing was of great benefit and I thank you very much. I expect to keep your medicines in my house nearly all the time as I feel I can hardly get along without them.

Yours respectfully,

MRS. SOPHIA BELL.

RUN-DOWN, NERVOUS, WEAK.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—After the arrival of my little girl a few years ago I became all run-down, was nervous and weak, suffered with backache, and could not sleep or eat well. I saw Doctor Pierce's Favorite Prescription advertised as being good for women so I decided to try it and it soon built me up in health and strength and relieved me of the pains in my back. I found it to be an excellent tonic for the building up of one's general system. I always recommend it to my friends.

Respectfully yours,

MRS. F. A. PRICHARD.



MRS. PRICHARD.

PROLAPSUS AND ANÆMIA.**"Sick only one-half the time I was when my other baby was born."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. SOMMERS.

Gentlemen — Having received more benefits from your medicines than from any I have ever taken, I wish you to use these few lines as a testimony hoping they will help some ailing sister to try them—as I recommend them to do all that you say they will do.

I have taken over a dozen bottles of "Favorite Prescription," three of "Golden Medical Discovery" and several vials of "Pleasant Pellets." I took these remedies for prolapsus and anæmia, also during pregnancy, receiving much benefit, being sick only half the time I was when my other baby was born. After his birth I did not gain as I would like to so I wrote you and your kind advice helped me. To-day I am enjoying better health than I have in the past five years. My sincere wish is that you may live long to help suffering women, and that God may reward you according to your good works.

Hoping many who are suffering may give your medicines a trial before becoming discouraged, I am,

Respectfully yours,

MRS. WM. E. SOMMERS.

INFLAMMATION OF THE OVARIES, PREGNANCY.**"Was in Labor Only Thirty-five Minutes."**

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir — About the latter part of last March I was all run-down, had lacerated cervix, inflammation of the ovaries, also ulcerated womb and vagina. My home physicians said the only thing to do was for me to be operated upon, but I was pregnant. I tried your medicine as a last resort. I took only a few doses of your "Favorite Prescription" until food began to stay on my stomach. I used it for five months. Six weeks before baby's birth I began taking the "Prescription" again. I was in labor only about thirty-five minutes and was so strong, I felt, in fact, almost well. My baby is two weeks old and I am doing all my work for seven in family and do not even feel fatigued, I owe it all to Dr. Pierce's medicines.

Yours respectfully,

MRS. KATIE M. FISHEL.

FEMALE WEAKNESS.**"Relieved in a Short Time."**

DOCTOR PIERCE, Buffalo, N. Y.

Dear Sir — I am giving this testimony regarding the merits of Doctor Pierce's medicine from the actual use of them and the good they have done me. I took his "Favorite Prescription" for female trouble and it cured me in a very short time. I have also taken "Golden Medical Discovery." The doctor once burnt my tonsils with caustic and they would not heal up; they would bleed, and "Golden Medical Discovery" cured me when nothing else seemed to do any good. I have also used "Pleasant Pellets." I cannot say too much in praise of Doctor Pierce's medicines; they are all good.

Respectfully,

MRS. SARAH CULVER.



MRS. CULVER.

FEMALE WEAKNESS.**"In Poor Health For Five Years."**

MRS. HESSHIEMER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION. No. 663
Main Street, Buffalo, N. Y.:

Gentlemen—I send a testimonial with much pleasure, so that some suffering women may know the true worth of your remedies. I was a great sufferer from female troubles, but after taking one bottle of Doctor Pierce's Favorite Prescription, which a friend advised me to take, I found myself very much improved, and after using three more bottles, together with two boxes of Doctor Pierce's Lotion Tablets, I found myself on the road to recovery. Was in poor health for five years but now I am cured. I hope all women suffering from female weakness will give Doctor Pierce's Prescription a trial.

Respectfully yours,

MRS. LIZZIE M. HESSHIEMER.

ULCERATION OF UTERUS—NERVOUS.**"Life is Worth Living Now."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I have taken five bottles of your "Favorite Prescription" and two of "Golden Medical Discovery," and cannot say enough in regard to the benefit received. Had ulceration of uterus and, it seemed, almost every affliction a woman could have. Nerves were all unstrung, in fact I was so nervous my husband could not walk across the floor to suit me; but now I am all right, nothing bothers me, slamming doors, dancing in the same room with me does not bother me in the least. Life is worth living now—so we both think. I had been in that state of health for almost nine years, and got so I did not care whether I lived or died. Had it not been for Dr. Pierce's medicines I think I should have died before this time. I hope and pray he may help every poor woman as he has helped me.

Respectfully yours,

MRS. S. A. ANDREWS.

FEMALE WEAKNESS AND CONSTIPATION.**"Now Feel Better Than For Years And Have Gained Six Pounds."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

Gentlemen—Some years ago I felt bad symptoms coming on but did not know what the trouble was. I grew worse so my husband consulted a physician who commenced treating me over a year ago. At first his treatment helped me some but it failed to do all that was expected, so we got another doctor and he did no better than the first. Finally, I was persuaded to try Dr. Pierce's medicines. Before I commenced their use was in bed half the time, and did not feel well the other half; could not do my work. I am happy to say that I now feel better than for years, and have gained six pounds within ten months. Have taken one dozen bottles in all, six of the "Favorite Prescription" and six of the "Golden Medical Discovery." Have also taken Dr. Pierce's Pleasant Pellets for a long time. My trouble was female weakness and constipation of many years' standing.

Respectfully yours,

MRS. CHAS. NICHOLS.



MRS. NICHOLS.

THIN, PALE, WEAK AND NERVOUS.**Soon Regained Full Strength.**

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:



MRS. HORNBECK.

Dear Sir—Soon after my first child was born, I became very thin, pale, weak and nervous, and could scarcely drag myself around or do my ordinary housework. My husband insisted on my trying Dr. Pierce's remedies because his relatives had used them, so I bought some of the "Favorite Prescription" as well as the "Golden Medical Discovery," using four bottles in all. Before the first bottle was finished I felt better and noticed a gradual improvement—found myself gaining flesh. I soon regained full strength and have since had two children. I am now fifty-two years old and passed the critical stage of life easily and am well and strong now. Am the grandmother of three children.

Yours respectfully,

MRS. JOHN HORNBECK.

GAINED IN WEIGHT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Dear Sirs—I had female trouble severely for four years. I tried several physicians who helped me only for the time. Finally, a friend recommended Doctor Pierce's Favorite Prescription. I sent and got a bottle and it began to help me. I was so low that the doctors had given me up. I weighed 119 pounds and had wasted away to a skeleton. I used eight bottles of "Favorite Prescription" and it brought me up out of what I expected would be my death-bed and made me a new woman. I gained in weight and strength until I got up to 180 pounds. This was some ten years ago and I have had no return of the trouble. I use no medicine now and I do a full day's work every day. I am grateful of this timely help and recommend the medicine that saved my life.

Respectfully yours,

MRS. D. J. MCCLURE.

FAVORITE PRESCRIPTION "WORKED LIKE A CHARM."

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—It is with pleasure that I write you a testimonial of what your "Favorite Prescription" has done for me and for my two oldest daughters. I would not have my only boy if it had not been for Doctor Pierce's Favorite Prescription and "Pleasant Pellets." I also recommend "Favorite Prescription" to mothers who have girls just turning into womanhood. I gave it to my oldest daughters, and it worked like a charm. They are stout, healthy young ladies and I will always recommend this remedy to my friends and to all who suffer from female complaint.

I am well pleased with the "Medical Adviser" which I received.

Yours truly,

MRS. OLA KIRKMAN.



MRS. KIRKMAN.

PAINFUL MENSTRUATION.**"They are Worth Their Weight in Gold."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:



MRS. SAWYER.

Gentlemen—Last April I wrote you for information concerning my health. I suffered from a pain in my left side for six months and suffered greatly with my changes, which were irregular and very painful. I was advised to use Dr. Pierce's Favorite Prescription and "Golden Medical Discovery" together. Had taken only four bottles when I felt better. Kept on taking these remedies until I was as well as ever. I can say that Dr. Pierce's are the best medicines I have ever taken. I can recommend them to anyone suffering as I did. They are worth their weight in gold. These will always be my pet medicines and I hope that every person will have as good results as I have had.

I wish Dr. Pierce every success.

Yours very truly,

MRS. EDWARD SAWYER.

FALLING OF THE WOMB FOLLOWING CHILDBIRTH.**"Well and Strong and Able to Do My Housework."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For three months after the birth of my baby I was unable to get around the house. Had falling of womb also had fearful pain in my back and soreness across the abdomen. A friend of mine advised me to take Dr. Pierce's Favorite Prescription. I took two bottles and then felt much stronger. The pain in the back was still there, so I wrote to Dr. Pierce for advice. He told me to keep on taking the "Favorite Prescription" and also take his "Golden Medical Discovery," which I did. Before I had finished the first bottle of "Golden Medical Discovery" I was able to get around the house. Altogether I took seven bottles of "Favorite Prescription" and four of "Golden Medical Discovery." Before I had taken the last two bottles I was well and strong and able to do my housework. I am still enjoying good health.

Respectfully yours,

MRS. T. BIRKETT.

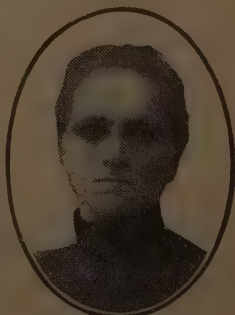
PAINS OF CHILDBIRTH ASSUAGED.**"Had Very Little Pain."**

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—When I expected to become a mother I began taking your "Favorite Prescription." Later I suffered very much from nervous prostration and palpitation of heart, and I commenced taking the "Golden Medical Discovery" with the "Favorite Prescription." I had taken six bottles of "Favorite Prescription" and three of "Golden Medical Discovery," when there was a fine baby girl born to us. Instead of experiencing for two and three days and nights the greatest agony that one could suffer, as I had always done before, I was sick only about five hours, and had very little pain. I got along so well my nearest neighbors said they could not believe it when they heard the baby was here. I am the mother of ten children and this one is the finest and healthiest of them all, and a very pretty child too. I don't know how to express my thanks to you for your advice. I insist that all suffering mothers try Dr. Pierce's medicines and be convinced.

Your friend,

MRS. R. F. REDFORD.



MRS. REDFORD.

NERVOUS PROSTRATION.**"I Now Feel Like A New Person."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I feel it my duty as well as pleasure to inform you what your "Golden Medical Discovery" and "Favorite Prescription" have done for me. I was nervous, weak, and scarcely able to do any work at all. I commenced using your medicines and took one dozen bottles (six of each), also some of your "Pleasant Pellets," and now feel like a new person. I cannot say too much in favor of your medicines.

Respectfully yours,

MRS. LUMMIE FISHER.



MRS. FISHER.

FEMALE WEAKNESS FOR FOURTEEN YEARS.**"Confined to Bed for Over A Month."****"The First Bottle Benefited."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I had been suffering with female weakness for fourteen years. Two years ago I was taken very sick, had pains in side, back, heart, and, in fact, ached from head to foot. I wrote to you asking advice; you answered my letter and I commenced taking your medicines. I can say with joy that the first bottle benefited me. I had been confined to my bed for over a month, helpless as a babe. I had tried different medicines and doctors without relief. After taking two bottles each of your "Favorite Prescription" and "Golden Medical Discovery," and using your "Tablets" and "Suppositories," I was able to do all my own housework and others' washings (I am a laundress by trade). I have not been confined to bed since. I still use the "Favorite Prescription" occasionally. I cheerfully send you this testimonial, hoping it may induce other women suffering as I did to give your medicine a trial. I thank God and you for what it did for me.

Yours truly,

MRS. SOPHIE BUNDY.

IRREGULAR PERIODS—BARRENNESS.**"The Best Medicine In The World."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I wrote to you in regard to my case you advised Dr. Pierce's Favorite Prescription, which I took, and after taking six bottles I was much improved. The following year a fine baby girl was born. I had been married six years and during that time had six doctors treat me, also had an operation performed in New Orleans but received no benefit. One year before my marriage I had a spell of pneumonia, and after that I suffered a great deal with painful and irregular periods, also female weakness. The doctor said I could never be a mother, and this would have been true had it not been for your wonderful medicine. I feel it my duty to tell it to the many suffering women. I can certainly say that Dr. Pierce's Favorite Prescription is the best medicine in the world. My husband says he never would have been so happy had it not been for your medicine.

Respectfully yours,

MRS. S. C. McLAIN.



BABY McLAIN.

PREGNANCY.

DR. V. M. PIERCE, 663 Main St., Buffalo, N. Y.:

Dear Sir—"Favorite Prescription" is the best tonic that I have ever known for women. I was in very delicate health in my early married life and lost two of my babies before maturity. Then one day my husband brought me home a bottle of "Favorite Prescription" and urged me to take it. I found strength and relief in the first bottle and kept taking it until I was in perfect health. For years afterward I depended upon the "Prescription" to give me strength during pregnancy and there was no repetition of my former experience. I am so grateful for what Dr. Pierce's Favorite Prescription has done for me that I am sending this testimonial to be published wherever it will do the most good.

Yours truly,

MRS. MARY BUSHEY.

"FEMALE WEAKNESS."

The "Discovery" Used to Purify The Blood.



MRS. CARPENTER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

663 Main Street, Buffalo, N. Y.:

Gentlemen—I want to express my heartfelt thanks to you in regard to your medicines, as I have used them in my family and find them to be the best. Have taken the "Golden Medical Discovery" for impure blood and it has cured me perfectly—made me sound and well.

My wife has used the "Favorite Prescription" and she is stouter than she has been in years. After other doctors failed to give her relief she got Dr. Pierce's Favorite Prescription and used five bottles, and now she is well. Her disease was such as is peculiar to her sex.

Hoping these few words will induce many sick persons to purchase your medicines, I am,

Gratefully yours,

CLYDE CARPENTER.

IRREGULAR MENSTRUATION.

Health Been Better Ever Since Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—I do not know of any name for my sickness. I seemed to be all run-down. Was tired all the time, and when I sat down to the table I would be sick at my stomach and could not eat. Had headache most of the time. Menstruation would stop for three months at a time. The doctor said it was weakness but he did not help me and so I thought I would try your medicine, which I did. I took one bottle of "Golden Medical Discovery" and two bottles of "Favorite Prescription" and a vial of "Pleasant Pellets." I took them according to directions and they helped me wonderfully. I became regular every month and have been better ever since.

Yours respectfully,

MRS. LYSANDER WRIGHT.

MISCARRIAGES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I want to extend to you my heartfelt thanks for the benefits which I derived from the use of your medicines, also for the kind and good advice obtained from your Specialists. I am a married woman—have been married eight years. Am twenty-three years old and the proud mother of a seven year old boy and a girl of five years.

I have been a great sufferer from leucorrhœa, falling of the womb and frequent miscarriages. Have had eight miscarriages in the past five years; three times I was given up to die—the last time being four months ago. I doctored with several doctors but obtained no relief. Was told that an operation would effect a cure, so I submitted to one at the Receiving Hospital but this proved, like all the medicines I had taken—not beneficial. On being reminded of Dr. Pierce's medicines by a letter which I had previously received from him, and of the good obtained from the use of just one bottle of "Favorite Prescription" I decided to take his medicine again so I wrote for further advice, which I obtained, and started at once taking "Favorite Prescription" accompanied by "Golden Medical Discovery." I have now taken several bottles and am greatly benefited.



MRS. KIPP.

When I had my last miscarriage four months ago the doctors and nurse said it would be a year or more before I would be able to do my housework, and, of course, I thought so myself as I was not able to walk across the floor for several weeks. I am now able to do all my housework and to care for my children and I do not feel as though I could ever thank you enough for the benefits I have received. I shall heartily recommend your medicines to any one suffering as I did. I think your medicines a God-send to all women.

Sincerely yours,

MRS. MABELLE KIPP.

TURN OF LIFE.

"Now I Can Walk Ten Miles at a Time."

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—You may publish this for the benefit of some sister in need of help. When I wrote to you I was unable to sit up only a few minutes at a time. Two years ago the turn of life began in its worst form and our local physicians were unable to do me any good. I would flow from fourteen to twenty-eight days at a time; could not eat nor sleep. After taking two bottles of Dr. Pierce's Favorite Prescription and one of "Golden Medical Discovery" I could sleep and had a good appetite, and the flooding ceased entirely. Now I can walk ten miles at a time.

Respectfully yours,

MRS. NANCY DICKINSON.

GENERAL DEBILITY.

**"To-day Bowels and Monthly Periods
Are Regular."**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Main St., Buffalo, N. Y.:

Gentlemen—In February, 1908, I gave birth to my third child, the oldest being not quite three years. This too frequent childbearing caused me to be unwell nearly all the time which made me very weak. I had no appetite and was very constipated. I wrote to Dr. Pierce asking him for advice which I received free of charge. He advised me to take "Pleasant Pellets," "Extract of Smart-Weed," "Favorite Prescription" and "Golden Medical Discovery." I followed his directions as closely as possible and to-day my bowels, also monthly periods are regular and I have a good appetite. Would advise any woman who suffers as I did to write to Dr. Pierce and take his medicines.

Truly yours,

MRS. HORACE WOODMAN.



MRS. WOODMAN.

OVARIAN AND UTERINE TROUBLE.

Gained in Weight. Stronger and Healthier
than for a Long Time.

World's DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.



MRS. WILKESON

Gentlemen:—For some time I suffered from ovarian and uterine trouble, with pains in my side, backache, and bearing pains. Through this I became so nervous and weak that I could not do anything. I was a miserable wreck, got so thin I only weighed ninety pounds. No medicine seemed to give me relief until I began taking Dr. Pierce's Favorite Prescription. After I had taken a few doses of this medicine I knew I had at last found something that was going to help me, I felt so much better. I have just finished my fourth bottle and am feeling fine—I have gained in weight. I now weigh 140 pounds, and do not have an ache or a pain, and am completely rid of all my ailments. Can do all my work and am stronger and healthier than for a long time. Favorite Prescription has made a new woman of me.

Yours truly,

MRS. THERESA WILKESON.

TOOK "FAVORITE PRESCRIPTION"

When Developing into Womanhood.

DR. V. M. PIERCE, 663 Main St., Buffalo, N. Y.

Dear Sir:—Up to the age of sixteen I was backward in womanly development. My mother was afraid I would suffer seriously later on if I did not have some help. She then gave me Dr. Pierce's Favorite Prescription, and I have every reason to believe that my health in later years was due to this tonic and nerve which was taken at the most critical period of my life. What Dr. Pierce's Favorite Prescription did for me I am confident it will do for other young girls if they will only try it.

Very truly yours,

MRS. WALTER FLETCHER.



MRS. FLETCHER

DYSMENORRHEA.

"Suffered Severely."

DR. V. M. PIERCE, 663 Main St., Buffalo, N. Y.

Dear Dr. Pierce:—Sometime ago I was in a run-down, weakened state of health and suffered severely each month. A relative advised me to take Dr. Pierce's Favorite Prescription and Golden Medical Discovery (alternately) and through taking her advice I was eventually restored to health. I took six or eight bottles and have not had a cramp or pain since and it is now three years, so I feel confident that mine is permanent relief. My health has been better and I am stronger in every way. I take pleasure in sending this letter hoping it may be the means of helping other women who suffer to find relief as I did.

Very sincerely yours,

Mrs. GERTRUDE CARSON.



MRS. CARSON

THE HOOK-WORM.

(UNCINARIASIS.)

This round worm is when full-grown from one-quarter to one-half an inch in length and hence can be seen. Its common name is given on account of its having four hook-like teeth surrounding the mouth. It infests the small intestines. The oval eggs are more frequently found in the stool than the worms.

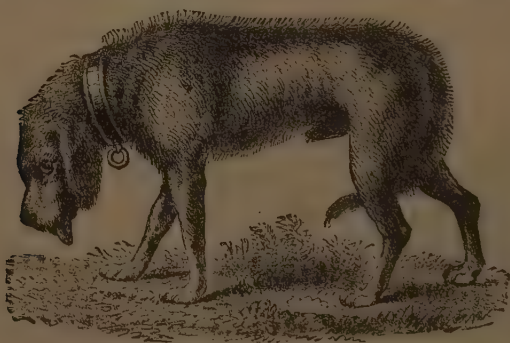
The parasite enters the body by the mouth and through the skin. Dirty hands, dirty fruit and vegetables carry the infection to the mouth. Going barefooted lodges the parasite between the toes which will find entrance to the body through any cut or abrasion. Walking in mud is a prolific source of danger, —on the contrary dry dust is usually harmless. The cyclone devastating Porto Rico in 1899 produced most favorable conditions and an epidemic immediately followed, affecting most of the inhabitants. In our own country, in the Southern States, cases of anæmia from this source are common though little suspected. It is often combined with malarial fever, which tends to conceal it. The most noticeable symptom from hook-worm infection is the paleness of the face—in extreme cases showing deathly pallor. The continual diminution of the red cells in the blood gives the name of pernicious anæmia to the disease. The blood becomes very fluid and coagulates slowly. The patient complains of disturbances of the stomach and bowels, short breath, dizziness and a growing weakness of mind and body. These symptoms become more pronounced as the disease progresses. The victim suffers from dropsy, nausea, and perhaps diarrhea, dulled intellect, face of extreme pallor, muscular weakness and emaciation.

The treatment is simple—the great majority of cases yielding to the use of thymol of which add one-half drachm to a bottle of the “Golden Medical Discovery.” One or two “Pleasant Pellets” should be taken at night to carry off the dead parasites. The diet should be nourishing and of easily digestible food.

DOG BITES. (HYDROPHOBIA.)

EVIDENCES OF THE DISEASE—HOW TO TREAT THE AFFLICTED.

This dreaded disease results from the bite of an infected animal—the dog, cat, wolf, fox, etc. Ninety per cent. of all cases in human beings result from the bite of the dog, four per cent. from cats and wolves and two per cent. from foxes. The specific germs or poison is introduced by the tooth or teeth making the puncture in the flesh and affects the brain prin-



DOG IN THE FIRST STAGE OF HYDROPHOBIA.

cipally. The accompanying illustrations cannot fail to make so strong an impression upon the mind that the mad dog will be known at first sight.

Very few physicians outside of large cities have an opportunity to see or study cases of this kind. Lately we read a report on the subject by the President of the Board of Health of New York which is so comprehensive and practical that we copy some paragraphs for the instruction of our readers.

“A practical point of great importance in connection with hydrophobia is to determine whether the animal which has inflicted the wound is or is not mad. If it is killed this may be determined within a very few minutes by a microscopic examination of the dog’s brain. This brilliant discovery was made in 1903 by an Italian physician, Dr. A. Negri, who demonstrated the presence of certain specific bodies in the brains of animals suffering from rabies. This knowledge obtained within

a few hours after the infliction of the bite should enable any competent physician to treat the wound in such a way as to prevent systemic infection. If a competent pathologist is not close at hand to make the examination, the skull of the animal should be broken open, the brain removed and placed in a jar or bottle filled with a mixture of one-half water and one-half alcohol, and this should be forwarded at once to the nearest laboratory, where the examination can be made within five minutes after it is in the hands of the pathologist and a positive assurance made as to whether the animal was or was not infected with the disease when the bite was inflicted."

The early symptoms of infection are uneasiness and general depression and in rare instances where the wound has long been healed pain is again felt in the scar. Convulsive seizures affect the muscles of the throat, gradually increasing in severity. Death follows from inability to swallow, from the poisoning and its action upon the heart. The interval between the bite and the convulsion varies from a few days to several weeks, sometimes months, and occasionally a year or more will elapse between the receipt of the injury and the onslaught of the fatal convulsions.

TREATMENT.

Immediately destroy the germs at the point of inoculation. The thorough burning with nitric acid will put an end to a danger of constitutional infection. This should be done as early after the bite as possible, but it has been proved that even if delayed as long as twenty-four hours further invasion of the disease has been prevented in almost every instance in which it has been employed. The remedy advised is pure nitric acid, which can be obtained from any drug store. This should be thoroughly applied to all points of the wound by means of a small glass pipette or medicine dropper, or, if this cannot be obtained, by a small glass rod or piece of wood, which latter is however gradually charred by the acid. As the application of this remedy is intensely painful the injection into the substance of the skin by means of a hypodermic syringe of a one-half of one per cent. solution of cocaine is used. The infiltration of this same solution into the fat and muscles for a circle of half an inch beyond the

edges of the wound so deadens sensibility that the burning of the acid is not in the least painful. When there is a deep puncture by a single tooth, enlarging the wound slightly by a single incision is advised in order to make sure that the acid may find its way to the very deepest parts of the infected area.

Even after twenty-four hours have elapsed it is believed that great benefit is to be derived from the thorough use of nitric acid. When it is not at hand pure carbolic acid well rubbed into all the recesses of the wound should be substituted, and when this cannot be obtained bits of telegraph wire cut into proper lengths and made red hot may one



DOG IN THE LATER STAGE OF HYDROPHOBIA.

after another be applied to the wounded surface until a thorough cauterization has been accomplished. In cases which have been neglected or have been treated later than twenty-four hours the Pasteur method is advised. This consists of the injection of a serum prepared after the method of the great French chemist.

In view of the anxiety which naturally follows the bite of a dog or other animal which may possibly be mad it is a wise precaution, even when the diagnosis of hydrophobia in the animal is not positively assured, to treat all cases as if they were inflicted by a diseased animal. The pain and inconvenience is only temporary and should not be considered when it is known that by this treatment all the dangers of this horrible disease may be eliminated.

SPERMATORRHEA

(SEMINAL WEAKNESS),

or emission of semen without copulation, is generally induced by the early habit of masturbation. It is one of the evidences that passion, instead of prudence, has held sway. Passion may aptly be termed the voice of the body, by which, if we listen, we are enchanted and led astray. Conscience is the voice of the soul, which remonstrates, and if we obey, we shall be guided aright. We cannot reconcile these conflicting voices, and if we indulge the passions when conscience forbids gratification, the remembrance of the wrong remains forever, and constant fear is an everlasting punishment.

Wrecked Manhood. Man possesses few powers which are more highly prized than those of virility, which is the very essence of manhood. "He is but the counterfeit of a man, who hath not the life of a man."

The Semen is a milky fluid of the consistency of mucus. It is secreted by the testicles and is intermixed with the fluids secreted by the prostate and by Cowper's glands. Its fertilizing property depends on the presence of minute bodies, termed *spermatozoa*. These consist of little polliwig-shaped bodies (Fig. 3), having large heads and long filaments or tails. Under the microscope these little bodies are seen to describe movements not unlike those of polliwigs.

Why Emissions of the Vital Fluid Debilitate. The seminal fluid consists of the most vital elements in the human body. It not only assists in maintaining the life of the individual, but communicates the essential, transforming principle which generates another mortal having an imperishable existence. Its waste is a wanton expenditure, which robs the blood of its richness and exhausts the body of its animating powers. No wonder that its loss enfeebles the constitution, and results in impotency, premature decline, St. Vitus's dance, paralysis, epilepsy, consumption, softening of the brain, and insanity. No wonder that conscience and fear become tormenting inquisitors, and that the symptoms are changed into imaginary spectres of stealthily approaching disease.

"There is no future pang
Can deal that justice on the self-condemned
He deals on his own soul."

The Practice of Onanism squanders the vitality and bankrupts the constitution. Indigestion, innutrition, emaciation, shortness of breath, palpitation, nervous debility, are all symptoms of this exhaustion. Subsequently, the yellow skin reveals the bones, the sunken eyes are surrounded by a leaden circle, the vivacious imagination becomes dull, the active mind grows insipid—in short, the spring, or vital force, having lost its tension, every function wanes in consequence. Ex-

cessive lustful enjoyment produces feebleness, and finally terminates in disease and impotency.

Seminal Weakness may be the result of marital excesses. A *proper* sexual gratification contributes to the health and happiness of both parties. On the other hand, intemperate indulgence not only prevents fruitfulness, but ultimately, if persisted in, renders the husband entirely impotent, and undermines and destroys the constitution of the wife. Spermatorrhea may be induced by spinal irritation, intestinal worms, or piles. It may also result from inherited, as well as acquired, constitutional weakness.

Professor A. Neisser says: "The criterion of abnormality has already many years since been laid down by Curschmann: in healthy people the emission does not leave behind any abnormal sensations whatever, whereas those who feel afterwards exhausted and weak must be regarded as diseased. We must admit in the case of the latter a disproportion between excitation and effect; an irritation which remains ineffective in a healthy man produces in them results which under normal circumstances do not arise, and this is a sign of weakness, of a hyper-excitability of the central nervous organs. This disproportion can keep increasing as time goes on. At the beginning erotic dreams occur in this connection, but later on they disappear. First the ejaculations take place during sleep only in the natural absence of the voluntary inhibition, afterwards they are caused during the waking state as well by the slightest imagination of an erotic character, and finally by the mere sight of a female person and even through looking at or touching objects used by women and the like. Sometimes ejaculations will be produced by mental impressions which a normal man can, often with great difficulty only, connect in any way with erotic excitations, or which are more likely to cause in a normal man just the opposite kind of feelings, such as disgust and nausea. Eventually the psychical element may disappear altogether, and purely mechanical irritations, such as the commotion caused by riding or driving, may have exactly the same effect. In such a case the ejaculation-center is the only one exercising any activity, while the erection generally associated in the process becomes entirely eliminated in the very last stages, the real ejaculation itself apparently ceases altogether, and the affection assumes the character of a proper spermatorrhea. Here also the boundary-line is not a fixed one, and the transitions are numerous. Where the erotic irritations are uncommonly strong the motor reflex often overcomes the will-power inhibition."

Nocturnal or Night Emissions. Involuntary emissions of semen most frequently occur during amorous dreams at night, and are therefore termed *nocturnal emissions*. Although they are at first occasioned by lascivious dreams, attended by erections and pleasurable sensations, yet as the disease progresses, the erections become less perfect and the losses are only revealed by the depression of spirits

experienced the following morning, and by the stiffened and stained spots on the linen. At first, these emissions may occur but once in two or three weeks, unless the patient be excited by company, stimulation, food, drinks, or other causes; but, at a later stage of the disease, they sometimes take place every night. In aggravated cases, the seminal sacs are so weakened that the warmth of the bed, friction of the clothing, reading obscene literature, viewing indecent pictures, indulging in lewd conversation, or even being in the presence of women, produces a waste of semen—many times unattended by erections. When there is great weakness, seminal discharges may be induced by lifting heavy weights, pressure upon the genital organs, horseback riding, straining at stool, or even upon urinating, as observed when muscular efforts are made to expel the last drops, which appear thick and viscid. If the urine be allowed to stand for a few hours, the seminal discharge will be precipitated, and will form a light-colored deposit at the bottom of the vessel. If the sediment be examined with a microscope, spermatozoa can readily be detected in it.

Fig. 1.



Testicle in a healthy condition.

Fig. 2.



Testicle wasted by Masturbation.

Wasting Away of the Testicles. Masturbation not only occasions loss of semen, but frequently the testicles and other generative organs waste and become reduced in size as a result of the abuse. Fig. 1 shows the testicle in a healthy condition, while Fig. 2 represents one much reduced, as a result of self-abuse.

The celebrated Dr. Drewery, of London, speaking of the reason why masturbation is so extremely injurious in its effects upon both body and mind, says:—"Perhaps the simplest mode of putting it is to say that the effects produced by the excitement of the parts are not the direct result of the stimulation, but that the excitement of the extremities of the nerves is conveyed through them to the spinal cord and brain, and that the emission which occurs, when sufficient stimulus has been applied, is the result of nervous force reacting upon the parts from the spinal cord back again. This action is termed reflex, but these two important points must be remembered—that emission may be produced by friction merely as a purely spinal reflex action, and it may be caused by the action of the brain without any friction whatever. Both these results are unhealthy and injurious.

"It is useless to endeavor to describe the marvelous actions of nervous force, but from what has been said it is not difficult to comprehend that if a convulsive action is produced in any part of the body by the sole excitement of the spinal cord, when it is necessary for its healthy and natural production that the brain and senses generally should be equally excited, the balance of nerve power is destroyed, which fact alone is proved by the effects upon the nervous system always following masturbation, which is the irritation of the spinal cord without the assistance of the brain."

Various Complications may arise in the progress of this malady.

Stricture of the Urethra, or water passage, is a very common complication and, even when quite slight, generally interferes very seriously with the cure of the spermatorrhea when overlooked by the attending physician, as is very commonly done, especially when the constriction of the water passage is only slight. Very often it occurs in our practice that on examining a case of this disease that has been the rounds of the doctors, we find a stricture, which had been entirely overlooked by other practitioners, being so slight as not to occasion serious obstruction to the flow of urine but yet sufficient to interfere very much with the cure of the spermatorrhea. The size of the urethra, or water passage, should bear an exact and proportionate relation to that of the penis, and when from any cause the urethra is contracted below this normal size, it should receive attention, as otherwise the stricture is likely to increase and the passage becomes so constricted as to produce serious disease of the bladder, and to perpetuate spermatorrhea when this disease exists.

Hydrocele (*Dropsy of the Scrotum*) consists of an undue secretion of the fluid which moistens the *tunica vaginalis*, and may arise from an irritation of the testicle, produced by masturbation. This subject is fully considered in the pages of the "Medical Adviser."

Varicocele is a dilatation of the veins of the spermatic cord and scrotum, and is frequently a result of masturbation. It is readily distinguished under the form of a soft, doughy, compressible knotty

and unequal enlargement of the veins, and a tumid condition of the adjacent parts. One writer, speaking of the enlargement of the spermatic vessels, describes them as "feeling like a coiled up bundle of worms."

Disease of the Prostate Gland is frequently caused by solitary indulgence. Venereal excesses produce congestion and the gland is overnourished. It becomes greatly enlarged, a condition called *hypertrophy*. This affection gives rise to a heavy feeling or pressure in the region below the bladder, and often interferes seriously with urination, and gives great pain and uneasiness, and often results in grave and dangerous complications.

Prostatorrhea consists of an unnatural flowing or wasting of the prostatic secretion, which may be known by its mucous-like appearance, and, when placed within the field of the microscope, by the absence of *spermatozoa* or fecundating germs. It is often mistaken for spermatorrhea, or for gleet, by inexperienced and careless physicians.

Again, the habit of self-pollution weakens all the structures of the genital organs, and induces seminal waste, which may lead to a morbid diminution in the size of the prostate gland. This condition, which is exactly the opposite of the one above described, is *atrophy*. Any disease which renders the circulation in the prostate gland languid and feeble interferes with the nutrition of that organ and impairs its function.

Impotency (Loss of Sexual Power). Masturbation prevents the excitability of the nervous system and sexual organs and causes debility, which is indicated by the premature discharge of semen during sexual intercourse. These premature emissions indicate not only partial impotency, but also that the nerve-centres have become morbidly sensitive by the practice of solitary vice, or marital excesses. At length the powers of the erectile tissues are diminished, and there is weakness which prevents the act of copulation, or the erection may be slow and not last long enough, on account of a faulty functional condition of the spinal cord.

A Peculiar Form of Impotency is associated with certain abnormal nutritive changes which give rise to a lymphatic or, fat condition of the system. Not that the temperament in all these cases is originally lymphatic, but the system degenerates in consequence of nutritive perversion. With the loss of sexual ardor, there is also apathy of mind, loss of manliness, and the victim becomes cold, dispassionate, and treacherous, devoid of any admiration or love for the opposite sex. He acquires rotundity of person, the face is fat, smooth, often beardless, and the voice is feminine.

The victims of this disease represent two distinct classes, viz.: (1) those who are fearfully tormented by the consciousness that they

are losing their virile powers, and become irritable, jealous and often desperate; and (2) those who are completely indifferent to this deprivation.

(1.) Patients of the former class are readily restored to health by proper treatment, for they are willing to make an effort for the recovery of their manly powers. There is not complete loss of sexual desire, yet their disappointment is so great that they may entertain suicidal thoughts. They are moody, fickle, discontented, excitable, and remarkably impulsive. With proper treatment, they regain tone of body, vigor of mind, an increase of sexual desire, and become more attentive to business affairs, and less indifferent to the gentler sex. With the restoration of the general health and the sexual functions, remarkable constitutional changes occur. It is often the case that their intimate friends hardly recognize them by looks or acts.

(2.) It is equally true that those who are wholly indifferent to the loss of virile power, uninterested in the evidences of their manhood, are sometimes incurable. In fact, it is useless to treat the latter class, because they will neither co-operate with the physician, nor persist in the treatment necessary to effect a radical and constitutional change.

Masturbation perverts and finally destroys the secretory functions of the testicles. It sometimes causes chronic inflammation, which may result in obliteration of the minute seminal canals, or obstruction of the conveying ducts. The sperm is imperfectly elaborated and totally unfit for procreative purposes. Sometimes the spermatazoa are entirely absent, and, when present, are very few in number, incomplete in structure, diseased, and deficient in power as well as in organization. Fig. 3 represents the spermatozoa in a healthy condition, and Fig. 4, when they are sickly, deficient and inanimate. The husband may appear to be healthy, and *his* inability to procreate may be erroneously considered a defect in his wife.

Symptoms of Spermatorrhea. The indications of abuse of the sexual organs are loss of nervous energy, dullness of the mental faculties, and delight in obscene stories. The expression of the face becomes coarse, and the movements slow; the eye is sunken, the face bloated and pale, and the disposition is fretful and irritable; the appetite is capricious, the throat irritated, and the patient makes frequent attempts to clear it, in order to speak distinctly. There are pains in the chest, wakefulness, and during the night lascivious thoughts and desires. The relish for play or labor is gone, and a growing distaste for business is apparent; there is a determination of blood to the head, headache, noises and roaring sounds in the ears, the eyes may be blood-shot and watery, weak or painful, the patient imagines bright spots or flashes passing before them, and there may be partial blindness. There is increasing stolidity of expression, the eye is without sparkle, and the face becomes blotched and animal-like in its expression. The victim is careless of his personal appearance, not

ordinarily clean with hands and face; and not unfrequently a rank odor exhales from the body.

There are troublesome sensations, as of itching and crawling, in and about the scrotum. Subsequently, there is obstinate constipation, and all the symptoms of dyspepsia follow. Gradually the pallor deepens, the patient becomes emaciated. There is a shortness of breath, palpitation after even moderate exercise, trembling of the knees and eruptions on the skin. There may also be a cough, hoarseness, stitch in the side, loss of voice. The sleep is not refreshing, the patient has frequent nightmare, or the dreams are lascivious, and the involuntary emissions of semen become more frequent. The weakness increasing, the sufferer experiences a weakness in his legs and staggers like a drunken man, his hands tremble and he stammers.

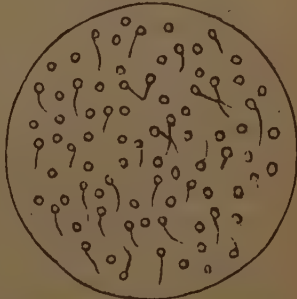
The victim is unable to concentrate his thoughts, cannot remember what he reads, and is mentally indolent. He begins to be suspicious

Fig. 3.



Microscopic appearance of healthy semen.

Fig. 4.



Microscopic appearance of semen which will not fecundate.

of his friends, has less confidence in others, and desires to be alone, is despondent and has suicidal thoughts. He has pain in the back, does not like to walk and is inclined to lie down. The semen is prematurely discharged upon attempting coition, and if there be offspring, it is apt to be feeble or subject to scrofula, consumption or convulsions. The genital organs, especially the penis and testicles, diminish in size as the disease progresses, lose their energy and the glands of the penis become cold and flaccid. There is frequent desire to urinate, chronic irritation in the neck of the bladder and pain in the spermatic cord and testicle, and sometimes in the end of the penis. The microscope shows that semen involuntarily discharged may be devoid of spermatozoa, or if present, they are defective, their heads being without tails. The urine is loaded with mucus or bears a filmy, membranous, transparent matter, or it may be covered with a fluid having an oily appearance—only in rare cases is it clear. Again, it may

hold substances in solution, which are deposited in crystals or incrust the urine, or it may precipitate a material having the appearance of brick-dust, and sometimes semen tinged with blood. The dyspeptic symptoms when present are followed by diarrhea. The limbs are cramped and rigid, the feet bloated, and the patient becomes melancholy and relinquishes all hope of recovery. As the disease progresses, the patient lacks firmness and is absent-minded.

When the erections are imperfect and the semen is prematurely discharged, or when a lengthy coition is required before sperm can be ejected, it is evident that the patient is rapidly becoming impotent; the virile powers are vanishing and manhood is surrendering sway to a merciless foe. We frequently witness this condition in men, even at the age of thirty-five, when the summit of vigor and strength should only have been reached. How often are we solicited to restore these lost hopes and powers! To what tales of ignorance and recklessness, or submission and remorse, do we repeatedly listen from these unfortunate sufferers! In patients of this class, sexual intercourse prevents spontaneous emissions, but it does not remove functional and organic derangements of the nerve-centres; hence, at a time when the victims of this disease should be in the prime of life, they are impotent.

Paralysis. Paralysis, or Palsy, when occurring as a complication of spermatorrhea, may be preceded by an attack of apoplexy, in which the patient loses consciousness and lies in a condition of profound stupor for a time, and on recovery from his unconscious state finds himself unable to use one or more of his limbs, or the disability and loss of power, which may also be accompanied by more or less loss of sensation, may come on gradually, without any premonition or marked manifestation of its approach. In either case, its appearance is to be regarded as a matter of serious importance. Paralysis, when occurring as a consequence of masturbation or sexual excesses, is usually difficult of cure; yet, now and then, cases are cured at our Institution even after this grave malady has appeared as a complication.

Insanity. This deplorable malady is not a very uncommon result of masturbation and its various resultant morbid conditions, as the records of the many institutions for the unfortunate class of sufferers from this disease bear abundant witness. Sometimes it manifests itself in the milder forms of hallucination, or monomania, but in the majority of cases, the patient sinks into a despondent hypochondria, which is many times followed, sooner or later, by a raving mania.

In cases of monomania resulting from masturbation, the mental derangement is often so slight as to escape detection by the patient's friends, the peculiar freaks of disposition being regarded rather as eccentricities of character than as symptoms of serious disease. Fits of despondency are usually common with such sufferers. The mental derangement is not always accompanied or preceded by spermatorrhea or frequent seminal emissions, the injury done to the nervous system by the practice of self-abuse, or sexual excesses, being first noticeable in various phantasms or imaginings on the part of the patient. These are, in different cases, so various, both in character and degree, as not to admit of any classification, each case presenting phases peculiar to itself. In many cases, the patient imagines that his best friends are conspiring to injure him, or that some great calamity is about to befall him. In most cases there is danger of the patient's committing suicide, if not closely watched. Especially is this true of those who suffer from fits of hypochondria.

Except in its milder forms, insanity resulting from masturbation and sexual excesses, is rarely curable.

Don't be Alarmed. A nocturnal seminal emission now and then, or at long intervals is not, in and of itself, evidence of the existence of spermatorrhea or other serious disease. A full blooded, strong, passionate man, in vigorous health, and who has never abused himself, may now and then, at long intervals, if his sexual passions be not gratified naturally, or if he permit his mind to run much upon lascivious subjects, experiences an emission while asleep and dreaming. As to whether such occurrences are evidence of disease or not, in any given case, depends upon their frequency, and as to whether they are the result of a weakness of the organs and are followed by more or less depression and debility, or are merely the overflow of a robust system, or the outburst of restrained, pent-up and ungratified pas

sions. In the latter case, and when only occurring at long intervals, the emissions are not followed by any perceptible enervating or weakening effects.

Quackery Rampant. This country is flooded with cheap circulars and pamphlets, circulated openly and broad-cast, wherein ignorant, pretentious, blatant quacks endeavor to frighten young men who may never have practiced self-abuse, or been guilty of excesses in any way, and yet who experience, now and then, at long intervals, nocturnal seminal emissions. In such cases, it is the duty of the conscientious, honest, and sympathetic practitioner of the healing art to give assurance, and not to unnecessarily alarm those who experience nothing inconsistent with a state of fairly good health. To frighten such young men into believing themselves diseased, when in reality they experience nothing but what may occasionally occur in the experience of any robust, healthy man, is the most detestable, downright quackery.

Treating the Wrong Disease. Not only are many men subjected to useless treatment by general practitioners who overlook the real disease, caused by pernicious youthful habits pursued in solitude, or later excesses in venery, but the female sex are also quite as often subjected to treatment for diseases which do not exist, the real trouble being nervous debility and other weaknesses that have resulted from the youthful pernicious practices common to both sexes, or later excesses in marital pleasures.

Moral Considerations. Masturbation is a habit which tyrannizes over the mind, perverts the imagination, and forces upon the victim venereal desires, even while he is forming the strongest resolutions to reform. It constrains into its service the higher faculties, such as friendship, confidence, love, reason, and imagination, to make its ideal graceful and beautiful.

Symptoms Vary in Different Cases. We can only partially delineate the terrible effects resulting from the abuse of the sexual organs. The symptoms are multitudinous, but, as we have before stated, no two persons are similarly influenced by this disease. The symptoms will vary according to the severity of the affection, the age of the patient, and his constitutional peculiarities. The presence of only a few of the symptoms which we have enumerated is evidence of abnormal weakness, which demands treatment.

Montaigne says: "We must see and get acquainted with our sins if we expect to correct them." Virtue presupposes trials just as much as victory implies warfare. The triumph of virtue is to defeat morbid or excessive passion, for virtue is only realized when it is a conquering force. Innocence is passive, but virtue is an active qual-

ity, purified in the fiery furnace of temptation. As men have in all ages been influenced by passions, so temptation has ever found its victims. It is an obligation that one owes to himself to overcome every evil passion or weakness to which he is subject, and the discharge of this personal duty requires moral courage.

The Reward of Virtue. Our Saviour invited all erring mortals to enter upon a higher life when He said, "Come unto Me, all ye that labor and are heavy laden, and I will give you rest." The invitation is accompanied with a promise. To all who are weary of excess and bowed down by passion, rest and restoration are promised, if they will but reform and employ proper means to that end.

The Sufferers Must Reform. Just as there is no spiritual restoration without obeying the Saviour, so there can be no physical restoration unless we fulfill nature's imposed conditions. There can be no salvation unless sin be discarded, and so there can be no redemption from the bad effects of a practice, so long as it is continued. It is no easy task to master a despotic passion. Appetite is often stronger than the will. The treatment must begin with moral reformation. Every manly impulse, and all the higher qualities of the patient's nature, must be enlisted in the struggle for virtue and health.

If the passions are restrained, then the capital of health increases, for the saving of the vital secretions is equal to compound interest. This illustrates the truth of the Latin proverb: "*No gain is so certain as that which proceeds from the economical use of what you have*"! The patient actually acquires confidence and manly courage by the retention of the seminal fluid, which directly increases his virile powers.

Hygienic Advice to Patients. Daily physical exercise and regular habits must be established. It is important that the mind, as well as the physical powers, be directed into active and wholesome channels. There must be restraint and discipline. It is useless to begin medical treatment while the patient continues to read exciting, amorous stories and obscene books, which are suggestive of lewd thoughts. Something practical ought to occupy the thoughts and engage the hands.

Regular and vigorous physical exercise is necessary to assist the circulation of the blood, and compel its determination into the minute and extreme parts of the vascular system. When the blood is thus directed, nutrition is more vigorous and the activity of all the functions is augmented.

Not only should there be regularity in eating, but sound discretion should be exercised in selecting a plain, wholesome diet, consisting of such articles of food as best favor a daily and free evacuation of the bowels. Avoid the use of those articles of food which produce excessive acidity of the stomach. Hearty or late suppers are not allowable.

The patient should use no alcoholic beverages, and should abstain from such stimulants as tea, coffee, beer, wine, and tobacco. We cannot even recommend their *moderate* use, for total abstinence is the better plan.

The patient should sleep in a well-ventilated room, on a hard bed, and have only sufficient covering for warmth and comfort. He should not lie upon the back, because in this position nightly emissions are more likely to occur. The patient should go to bed when he feels sleepy, and not resist the inclination until wakefulness is induced.

He should rise early in the morning and immediately take a cold hand bath. For this purpose a quart or two of water and a common hand towel only are required. After bathing, rub the surface of the body with the dry hand or a crash towel, and continue the friction until the skin is red and a reaction is established. Do not excuse yourself from following these hygienic suggestions. A refreshing bath changes the morbid sensibilities to a more healthful state by the reaction of the nervous system.

It is beneficial to apply a towel saturated with cold water to the genital organs fifteen minutes before leaving the bed. Douching, or showering the genital organs with cold water once or twice a day will also be beneficial. It should not be practiced, however, just before going to bed. It is well to bathe the head with cold water, and this can be done much better if the hair be kept closely cut.

Horseback riding, climbing, and all exercises which rub, chafe, or excite the genital organs, should be avoided. Even the clothing should be loose, so that walking will not produce friction or cause any excitement of these organs. The calls of nature should receive prompt attention, and the urine be voided at any time (especially during the night) when there is an inclination. If there be irritation of the bladder and lower bowels, the patient will receive decided benefit from the daily use of an injection of cold water into the bowels. From a half pint to a pint of cold water may be used at one time, and the injection should be retained for a few minutes before going to bed. The bowels will thus be relieved, the heat and irritation subdued, and the liability to seminal emissions lessened.

Patients afflicted with spermatorrhea should not allow their thoughts to dwell upon their ailments, for they are apt to become moody, self-deceived, and even insane upon this subject. To avoid this, harmless amusements should be indulged in, and good moral company cultivated. They become suspicious, skeptical, and believe that they are victims of imposture. When they lose self-reliance, their faith and trust in others begins to waver, especially if their health does not improve so rapidly as they had anticipated. As much depends upon the faithful observance of the hygienic rules as upon the constant and proper use of medicines. The rapidity of recovery depends upon the constitutional energies and the vigor of the vital resources. If the

blood be greatly impoverished, or the nervous system much impaired, recovery will be necessarily slow. Time, patience, and perseverance, are just as essential to a recovery from the effects of these abuses as the best medical treatment that can be employed.

The Medical Treatment of Spermatorrhea and Impotency. Few diseases require so many modifications of treatment, to suit the peculiarities of individual cases as spermatorrhea, because it is attended with so many complications and morbid functional and structural changes. Every complication must be considered, and great judgment exercised in the selection of remedies. As this selection must depend upon the peculiarities of the case involved, it is impossible to impart to the non-professional readers sufficient medical knowledge to enable them to choose the appropriate remedies for these intricate disorders. Hence it would be useless to specify the various medicines which our specialists employ in treating them. It would only lead to many fruitless experiments, which might result in great harm to the afflicted. For remedies powerful enough to effect cures of spermatorrhea and impotency are capable, when improperly employed, of doing great harm. Especially should all ready-made, proprietary or put-up medicines, such as are sold in drug stores and chemists' shops, be avoided, for reasons already mentioned. Great harm, also, often results from the employment of "galvanic belts," "galvanic batteries and pads," and other catch-penny devices, with which the too confiding are not only duped and swindled, but terribly injured. They are all worse than useless, and often render the mildest case very difficult to cure by inducing serious complications. It is better to take no medical treatment, but rely solely on the hygienic advice we have given, rather than to resort to any of the so-called "*specifics*" found in the drug shops, or to any such silly, good-for-nothing trash as the various "Pastilles," "Boluses," "Curative Rings," "Voltaic Belts," or other quackish medicines and contrivances.

Importance of Hygienic Discipline. The invalid should restrict his attention to hygiene, and learn that patient endurance and heroic perseverance are necessary, even when taking the most efficient remedies. His entire system having gradually become degraded, corrective medicines must necessarily be *chronic* in their operations; in other words, they must act insensibly, slowly, and progressively. Some of the symptoms of sexual weakness will, under proper hygienic and medical treatment, generally begin to disappear within a month. If the nervous system be very much impaired, however, a longer time will elapse before the restorative effects of treatment will be observed. Neither the physician nor the patient should expect that a broken-down constitution can be immediately repaired. The day of miracles is past. The most rational method of treating the sick promises nothing supernatural, nothing

which is not in accordance with science. Diseases of this character are always slow in their inception, or development and progress, and must be cured in like manner, step by step. Nature never hurries; atom by atom, little by little, she achieves her work.

Our Improved Treatment. Years ago our specialists resolved to pay particular attention to the investigation and treatment of these diseases, which are not only alarmingly prevalent, but sadly neglected and mistreated by the general-practitioner of medicine.

Unfailing Remedies. Having successfully treated many thousands of cases, we can safely say of our remedies that they are very positive in their remedial effects. The great success which has attended the employment of these remedies has led us to rely upon them with implicit faith. By their persistent use, spermatorrhea and threatened impotency can be cured as readily as other chronic or lingering diseases. We particularly solicit those cases which have heretofore been regarded as incurable. The patient is subjected to no surgical operation, and he can safely and accurately follow the directions given, while the treatment does not interfere with any ordinary occupation in which he may be engaged. These delicate diseases should not be intrusted to physicians who advertise under fictitious names, or to those of ordinary qualifications. The general practitioner may be thoroughly read in these diseases, but he cannot acquire the skill of a specialist who annually treats thousands of cases, while the former seldom, if ever, has occasion to prescribe for them.

Signs of Improvement When Under Treatment. Under our peculiar and improved system of treatment, gradual improvement in the patient's condition will be manifested. The eye becomes more brilliant and sparkling, the patient is less morose, his digestion improves, he is less listless and despondent, takes more interest in business and other affairs, his sleep is less disturbed and more refreshing, the strength improves, and, if the sexual organs had become wasted in size, weak in function, and flaccid and soft, they begin, by and by, to have more tone and firmness, and to develop and increase in size, as their nutrition is restored, by the checking of the exhausting drain which they have sustained. If nocturnal emissions occur occasionally, the discharge will, under the microscope, be found to be less watery, and to contain increased numbers of *spermatozoa*, with heads and filaments perfect. The patient now begins to gain in self-confidence, courage, and other manly attributes, and, instead of the bashful, retiring, nervous, languid hypochondriac, we see a man of ambition and energy, competent to battle with the adversities of life. Who can estimate the value of such a transformation from nervousness and despondency to vigorous manhood? Who would begrudge all their earthly goods and treasures, when thus afflicted, to be so restored to health and enjoyment; for of

what avail are the greatest riches when health and manhood itself are lost ?

Our Terms Business-like and Fair. Occasionally persons solicit us to undertake the cure of these ailments, and, in case of failure, receive no compensation. They write: "If you will *warrant* that your prescriptions will result in a *perfect restoration to health*, we will gladly pay the fees that you ask." The absurdity of such a request is apparent, and therefore we answer: "We cannot *warrant* that you will live even for the next twenty-four hours. We do not bet, play for stakes, or wager our skill for money. Personal responsibility cannot be shifted or evaded, and life and health, with all their momentous considerations, are necessarily individual affairs. Therefore a proposal to make the conditions of health a subject of speculation is a challenge to gamble." The patient may not comply with the specified conditions, and the physician's success depends upon a faithful application of the prescribed treatment. For these reasons only a quack will be a party to any such transaction. Ours is not a trading, hazardously speculative profession. Besides, thousands of our patients reside long distances away and we cannot know of their responsibility or honesty, nor spend time inquiring after their financial standing.

Evidences of the Curability of Spermatorrhea and Impotency. Many individuals afflicted with spermatorrhea and impotency, particularly those who have been swindled by some of the many charlatans who are to be found in nearly every city, are incredulous, and doubt our ability to cure these maladies. Others are skeptical, because their physician, who may be a very skillful general practitioner, but who has had very little or no experience in treating these delicate maladies, has failed to relieve them, and, perhaps, has told them the disease is incurable.

We therefore beg the indulgence of our readers for here offering some indisputable evidence of the extraordinary success which we have achieved, by our peculiar methods of treating these affections, as pursued at the World's Dispensary and Invalids' Hotel and Surgical Institute.

This evidence is introduced for the encouragement of an unfortunate class of invalids, for many of whom existence has ceased to possess any charms. The grateful manifestations which we have received from this class of sufferers have afforded us one of the greatest pleasures of our lives, and have alone been a rich remuneration for the diligent study and arduous labors devoted to the investigation of these diseases and to the perfecting of our peculiar and successful methods of treating them.

Sacredly Confidential. In introducing the following extracts from our extensive files of letters, the names of the writers will be omitted, as we regard all such correspondence, as well as facts communicated to us in personal consultations, as *sacredly confidential*.

Lack of space and fear of wearying the reader prevent us from introducing more than a few extracts; but these are only fair samples of *thousands* that have been received. Those given present cases in almost every stage of treatment, some soon after commencing, others further advanced, and still others which are cured. If we could devote the space, and had we time to select them, we could insert an unlimited number of those received from patients who have been perfectly cured; but we think the reader will be more interested in expressions coming from patients in all stages of treatment, as they are daily received. Therefore, without regard to literary excellence, we append a number chosen miscellaneously, and give them *verbatim*. They express the sentiments of persons in all stages of life, and illustrate the views and feelings generally entertained by those whom we have been called upon to treat.

The following extracts are spontaneous acknowledgments, and are, therefore, more valuable and truthful than if obtained by solicitation, a practice contrary to our sense of propriety, and, hence, one in which we never indulge. Only sufficient space can be spared for a brief quotation from each letter. We give the addresses but are not permitted to disclose the names of the patients.

TESTIMONIALS.

CASE 175,827. Impotency, Constipation, and Seminal Loss at Stool and with the Urine.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Since I have taken the remainder of a third month's treatment that you gave me I have been relieved of my trouble. The emissions have ceased and the losses at stool and in the water have left me. Eighteen months ago I was almost a complete wreck; now I take an interest in business and am in excellent health.

Respectfully,
S., Waveland, Ind.

CASE 177,068. Spermatorrhea. Loss of Vital Strength. Cured with seven months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—You have undoubtedly wondered at my long silence. Since last I wrote you there has been a marked change in my life (of which I will speak further on), under your skillful treatment. I improved so rapidly, notwithstanding the many interruptions which misfortune on my part occasioned, that six months ago I considered myself cured. I have been married three months and a half to a worthy woman, who should have gained for herself a husband who never deviated from a virtuous path as much as I; but the attachment formed was so strong that no misfortune seemed powerful enough to sever it. The barrier which seemed insurmountable, and which I had erected myself by early indiscretions and excesses, has given way, thanks to your superior medical knowledge and skillful treatment. Again I can hold up my head and say, "I am a man." I never fail to call the attention of my friends to your Institution as the best in the world, for I have reason to know that it is truly so. I have recommended two friends of mine to you, who are under your treatment, and are getting well. One has tried all the local physicians, and many firms, but with no success. May God bless you, and may your Institution meet with all the success it so richly deserves, is the prayer and wish of one you have saved.

J., Leadville, Colo.

CASE 173,666. Emissions, and Loss of Weight and Strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have had no emissions now for some time, and feel well in every way. I am gaining in strength and weight, and find I shall not need further medical treatment. The four months' medicines that you have sent me have effected a radical regeneration in my health, and I thank you for it.

M., Hartford, Conn.

CASE 111,477. Spermatorrhea and Irritable Bladder; cured by two months' treatment.

This was a badly complicated case of spermatorrhea, the patient being also troubled with frequent urination, partial impotency, mucous discharges from the urethra, and a burning sensation in the testicle and groin.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I took the two months' treatment sent me by you as directed. After taking the first month's treatment the emissions ceased entirely, my appetite increased, and I slept much better. Eight months ago I finished the second month's treatment and have since been in perfect health. I am fully convinced that you do every thing that you promise.

I am, gentlemen, yours respectfully,

R., Fort Totten, Dakota.

CASE 266,080. Spermatorrhea. Threatened Impotency. A severe case, cured by six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have received the last medicine sent me, and have taken all with the best results. I have so improved in health that I think it unnecessary for me to take any more medicine. It is now several days since I took the last of the medicine, and have not had any return of the disease. The desire to masturbate seems to have left me, and I feel well, happy and strong. When I look back to the time before I commenced to take your medicine, the change that has taken place seems wonderful. I had lost all hope of being restored from the ruinous habit I had practiced for many years without knowing how fatal it was to health. I tried hard to stop the practice, but it had grown so strong on me that I would always practice it again, and was fast becoming impotent. Had emissions at night; was nervous, down-hearted; and I lost flesh, and felt miserable in many ways too numerous to mention. But now I feel healthy and well. If I had been more careful, and had not stopped treatment so soon before, I might have been cured in four or five months. Nevertheless, I am well satisfied, and thankful that I am restored to health in six months; and I wish to express my sincere thanks to you and your Institution, for I owe my restoration to health and happiness to you. If in the future I need any medical skill, I shall always apply to your Institution, being certain of receiving the best attention.

Yours thankfully,

S., Pittsburg, Pa.

CASE 62,365. Very Bad Case of Spermatorrhea and Impotency. Cured with six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It has now been nine months since I stopped your treatment, and as there has been no return of former symptoms, I judge there can be no doubt as to my cure being permanent. I must confess that, having been duped and swindled by so many previous to visiting you, I had not much confidence when I went to Buffalo to see you. But your specialists, and your Manager, seemed to talk so straightforwardly and without making any of those extravagant promises that I have become so used to, that I became convinced of your skill before I had been long in your wonderful Institution. I think almost any invalid who will visit your Hotel, and see for themselves the wonderful appliances that you have accumulated for the cure of disease, must soon become convinced that if there can be any hope of relief it can be secured there, if anywhere. There I saw those who told me they had been brought there on beds or couches for hundreds of miles, and that they had not been able to walk for two to four years, and yet with two or three months' treatment were able to go about everywhere, and were about ready to return home. Such experiences as these established my confidence, and to-day I bless the day I first visited the Invalids' Hotel. True, it took six months to cure me, but I presume you seldom have cases to equal in severity the condition I was in when I applied to you. I was so bad, as you will remember, though I do not suppose you rely upon any thing but your records in referring to cases, having so many under treatment at all times,—at all events, if you will turn to the record of my case, which is "File No. 62,365," you will see that I had discharges of semen every time my bowels moved and without erections. In fact, I was completely impotent. I am now as strong and vigorous as any man. You told me it would probably take a year to cure me, but as you accomplished it in five months, though I continued to take medicine a month longer to insure against a relapse, I think myself very fortunate. Should any of your staff have occasion to come this way, I should be only to glad to do any thing I can to entertain them.

Gratefully yours,

C., St. Louis, Mo.

CASE 183,998. General Debility. Emissions and Loss of Energy. Urinary Irritation.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The reason for my not continuing treatment further than the fourth month, is the fact that my health is so much improved that I do not need it. I feel like a new being. All of my bad symptoms are gone, and I feel that I am cured. For eight months my health has continued to improve all the time. I owe you and your staff a debt of gratitude that I can never pay.

Yours with thanks,

H., Johnson's Bayou, La.

CASE 152,504. Spermatorrhea.

Mr. S., of Bagwell, Texas, writes as follows: "Language fails to express my gratitude for what your treatment has done for me. I have gained forty-two pounds since coming under your care. My cure is perfect."

CASE 174,628. Spermatorrhea. Extremely bad case. Loss of voice; threatened with Consumption.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am thankful to say that as a result of eight months' treatment you have given me, the symptoms of my disease have been entirely removed. My voice has got strong and clear, and my breathing is easy and natural. My weight is increased, and in every way I am feeling well. I cannot refrain from penning a few lines.

H., Port Hope, Ont.

CASE 113,274. Spermatorrhea.

Mr. K., of Kalamazoo, Mich., writes: "I feel that you have proven to be the best friend I have on earth. It is about three weeks now since I finished the last month's medicines, and I feel as strong as I ever did in my life. When I commenced taking your medicines I only weighed 155 pounds, but now I weigh 170 pounds. I feel strong and rugged; my step is firm and bold; and I feel altogether a new man, for which I return you my sincere thanks."

CASE 173,399. Emissions. Loss of Weight and Appetite; Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I write to let you know that my health is improved, and to thank you for the same. The emissions occur only at intervals of several months, and I do not have any more polluting dreams. I am better in every way. My appetite is improved, and my digestion is perfect. Have gained in weight, and sleep well. I have not required all of the last supply of medicine, the sixth month, and I think I will pull through all right. Please accept my thanks for the benefit effected.

D., Valparaiso, Ind.

CASE 45,757. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Received yours dated Oct. 27th, and am happy to say that I have so far recovered as to believe further treatment unnecessary. I feel like a new man; am able to do a full day's work without pain or laziness. I am very thankful for the benefits I have received through your skill, and should I think it necessary at any time for me to renew the treatment, I will be glad to call on you.

Yours with great respect,

A., Zanesville, O.

CASE 175,315. Spermatorrhea; Dizziness and Biliousness; Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am in good health, and can say that I am cured. The emissions have stopped, and I have no unnatural discharges, nor dizziness in the head. My health is good in general, and I work hard every day. Physically, I have a good appetite and digestion, which is a great change from what it was when you first treated me. Although I continued the treatment for eight months, owing to the complications and severity of my case, yet I am thankful for the great relief.

D., Newport, Ark.

CASE 39,625. Seminal and Nervous Debility.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My case was one of long standing, and had brought me to think and meditate more of dying a consumptive's death, than living. The ill success I had met in trying to recover my lost manhood, had put me in such a constantly low-spirited condition, that nothing was interesting or pleasurable. I am highly pleased to report the improvement in my condition. My voice, weak and hoarse when I commenced treatment, is now strong and masculine. Hope and self-confidence have returned, and my countenance is firm and resolute. The dull, heavy, pressing pain under my left shoulder, is entirely gone, long ago. The pain and weakness in hips, back, and side, are never felt. I am in every way fully restored to perfect health and manhood.

Yours sincerely,

O., Sheboygan, Mich.

CASE 67,746. Spermatorrhea. Cured in four months.

[EXTRACT FROM LETTER.]

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It is with great pleasure that I write you. I have taken but one month's treatment from you, and if I should just give you a full history of my case before and since I have taken your medicine, you would not believe the improvement could be true. I feel better every way. I am without language to express my thanks to you for the great work you have done for me. Your ever true friend,

B., Blountville, Sullivan Co., Tenn.

CASE 22,511. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Accept my thanks for the great benefit received from your treatment. I never thought I could be so fully restored.

G., Peru, Ind.

CASE 450,422. Spermatorrhea, Seminal Debility, Muscular Rheumatism. Cured with six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am thankful to say that, as the result of the six months' treatment you have given me, that I am cured of my trouble. Since the beginning of the treatment the losses became less and less frequent, and now I am entirely relieved, and desire to return my sincerest thanks to you for the good you have done and the kind attention that you gave me.

Sincerely yours,

G., Milverton, Ont.

CASE 48,927. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—My head is clear and I feel like myself again, and now only wish that the money I spent for useless medicines and experimenting doctors, had at once found its way to you. By recommending you to others suffering as I did, I hope to assist in your honorable work. For my restoration to health and manhood, I am deeply grateful.

Truly yours,

B., Philadelphia, Pa.

CASE 154,136. Seminal Weakness.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I see no further use in continuing your medicines, as I now feel perfectly well and the emissions have stopped entirely. I used to feel dizzy, exhausted, and irritable on arising in the morning, but now I feel nothing of the kind.

Respectfully,

K., Johnstown, Pa.

CASE 175,391. Spermatorrhea, with symptoms of Bright's Disease and Torpid Liver.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—When I applied to you for treatment, although a man of apparently perfect health, yet I was subject to an exhausting drain, and felt myself gradually declining in vigor of intellect and constitution. The five months' treatment that you have sent me has effected a very remarkable change in my health. My kidneys (which had troubled me so that I feared Bright's disease) and torpid liver have become natural, and I feel like a new man. The only precaution I now take is not to sleep on my back; and I feel that I am cured. I send you the names of some other patients, and close by saying that I thank you sincerely for the cure, and the great benefit in my health that has resulted from your treatment.

M., Manhattan, Kans.

CASE 110,837. Stricture and Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My seminal trouble was cured long since, and I had forgotten it. Your medicines relieved me of that in a short time, and I am satisfied that it will cure the worst cases in a few weeks. I am also satisfied that you and your faculty accomplish more in the healing art than any other in the country, and I cannot say too much in recommendation of your institution. I have tried your institution, and have found your words true in every sense. My appetite is good, and I have no pain or trouble whatever. The neuralgia in the lungs, the tough phlegm, weakness, etc., have all disappeared.

A.

CASE 111,571. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Under the influence of your last course of medicine my health has improved so greatly that I feel any further treatment to be unnecessary. My health is better now than at any other period for years. The night emissions have ceased entirely, I not having had one now for many months. I feel better in every way.

Respectfully,

P., Pittsburgh, Pa.

CASE 57,757. Lost Sexual Power Regained.

[EXTRACT FROM LETTER.]

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—While taking your medicine I labored physically. I am cheerful, hopeful, joyous, glad, and grateful for my restoration to sound and vigorous health. My friends daily express surprise at the great change in my personal appearance, and declare that I appear younger than I did fifteen years ago. I always reply that I obtained my new lease of life from the World's Dispensary Medical Association, Buffalo, N. Y.

With sincere gratitude and great respect. I subscribe myself

W., Canyon City, Grant Co., Oregon.

CASE 3,508. Seminal and Nervous Debility of thirty years' standing. Cured in two months.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *My kind Benefactors*—Inclosed find the case of my daughter-in-law, whom I desire you to treat, believing that you can cure her. I feel assured that if you fail in the cure of her case, now so chronic, that no human skill will be of benefit.

Some four or five years ago you treated me for general debility and premature decay, with severe attacks of vertigo. The first month's medicines, which were sent by express, effected a relief of my case. Owing to the long standing of my trouble (twenty-five or thirty years), I concluded to continue the treatment another month. My order was promptly filled by mail. By these two months' treatment I was perfectly cured, my whole system renovated and invigorated. I have been repeatedly asked what I had been doing to cause such an improvement in my personal appearance, and activity, for an old man. With profound gratitude, adding love, I am your obedient servant,

W., Rusk, Texas.

CASE 250,336. Spermatorrhea; loss of Strength and Weakness of Memory. Cured with seven months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have not taken any medicine since last December, at which time I had closed the seventh months' treatment. I am happy to say that, as a result, my mind is clear and easy. I am steadily gaining in strength, and feel better than I have for many years, and owe it all to your treatment and advice. I hope you will live long and prosper, and continue to dispense a balm for suffering humanity. I will close by giving your faculty my greatest devotion and sincere thanks, and hope success will crown your business.

W., Pickens, Miss.

CASE 82,127. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Your last month's treatment has entirely cured me. I have been married three weeks and am happy, thanks to your unexampled skill.

R., Blackberry, Kane Co., Ill.

CASE 88,736. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Sure enough I am well, and I desire to thank you for your medical skill. My strength is very greatly increased, my digestion and appetite are perfect. I sleep well and awake refreshed, and, in fact, feel better every way. My eyesight, which was weak, is wonderfully improved, and my physical condition is now perfect in every way. All the emissions have ceased,

Respectfully,

B., Fayette, Howard Co., Mo.

CASE 144,241. Seminal Debility. Cured with four months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that your treatment, which I have taken four months, has effected a radical cure of my trouble.

Your treatment has effected a cure in my case.

Very truly yours,

M., Trout Creek, N. Y.

CASE 71,250. Spermatorrhea of thirteen years' standing.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I can honestly say, as the result of your treatment, that I feel better now than at any time previous for years. My disease is under complete control, and I have no fear of any further trouble in that direction. In a word, I feel that I am cured and well; and you may rest assured that I shall take great pains to avoid in the future the cause that brought me to my former condition. I am, indeed, thankful to you, as your treatment has made it possible for me to lead a better life, and effectually to resist those passions which so long dominated over me.

I remain, very respectfully yours,

H., Council Bluffs, Iowa.

CASE 142,842. Spermatorrhea cured.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—It is with great thankfulness to you that I pen these few lines. I am to-day a strong and healthy man, which I never would have been but for your kind and skillful attention. My health was completely broken down by the effects of self-abuse, and I doctored with other physicians for two years, but with no success. However, after a few months of your treatment I find my health fully restored. I am now in a condition to enjoy the world and take comfort wherever I am; in a word, I am "a man among men." I most cordially invite all persons requiring skillful medical treatment to apply to the World's Dispensary.

M., Fredericville, Mich.

CASE 174,937. Spermatozoa. Threatened with Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I finished your three months' course of treatment some weeks ago, and am glad to say that I am a well man. A thousand thanks to you.

K., Warm Springs, Mont. Ter.

CASE 52,272. Seminal Debility. Loss of Manhood. General weakness from excesses.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I took your medicines according to directions, and I feel that I am fully restored to health and the enjoyment of my manly powers. My health is better than it has been for years, and is improving all the time. The headache and dizziness have entirely left me. You have my honest recommendations to all sufferers.

Thankfully yours,

M., Hudson, N. Y.

CASE 44,573. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—As a result of your three months' treatment, I am feeling better than I have for twenty years,—more of a man in every way.

S., Prairie Star, Neb.

CASE 56,811. Nervous Debility. Affection of several years' standing, permanently cured by one month's treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Five years have elapsed since my case was cured by you with one month's treatment. Since that time I have not had the first symptom of the disease. I know I am cured.

Yours with thanks,

C., Kalamazoo, Mich.

CASE 175,579. Emissions, Yellow Complexion, Black Heads and Eruptions on the face.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that I have not used all of the last month's medicine. The five months' treatment that I have had from you has effected my entire cure. I have had no losses for many weeks, and my complexion is restored to its natural clearness and purity. The black heads and pimples have all disappeared.

K., Neillsville, Wis.

CASE 21,437. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I have, as a result of your treatment, been more of a man than before in six years. I have felt, worked, and eaten better than ever before. My strength is in every way fully restored.

C., Jordanville, N. Y.

CASE 38,005. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—When I first wrote you I had given up all hope of ever getting well. I had not worked for two years. I had not been under your treatment three months before I went to work, and have been at it ever since. I gain every day.

C., Hinsdale, N. H.

CASE 53,578. Spermatorrhea. Great loss of strength and flesh, appetite regular, sometimes ravenous and then very poor. Intellect and memory much enfeebled, the result of losses through the urine.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The condition of my health is highly satisfactory, thank Heaven and you as the instrument. It has often been a cause of astonishment to me, to think how admirably your medicines controlled my case; it seems wonderful even now. I say, with all my heart, God bless your noble work, for the cure of my disease and perfect restoration of my health and strength.

A., Shongo, Allegany Co., N. Y.

CASE 52,920. Spermatorrhea, resulting in Dyspepsia and Heart Disease.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am gratified to be able to report my cure. My case was a severe one, the insidious drain upon my system producing general debility, attacks of severe palpitation of the heart, and obstinate dyspepsia. Since using your medicines, I have been cured of these troubles. I have no palpitation, digestion good, not easily worried, able to work hard without undue fatigue, strength greatly increased. My weight is now 163. I am thankful to God and to you for the evidence of my final cure.

Yours devotedly,

R.

CASE 51,002. Spermatorrhea. Rheumatic pains, general loss of memory, strength, manliness, and intellectual power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—When I sent to you for medicines, I little expected the remarkable benefit that has resulted. The rheumatic pains that have so long troubled me, ceased within a week. I am now able to attend to my business with my former ability and energy. You have my gratitude for the cure effected in my case.

Very respectfully,

P., Bloomington, Ill.

CASE 146,406. Spermatorrhea, with Dyspepsia, Catarrh, and Backache.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that as a result of five months' treatment, the weakness of my urinary and generative organs has been entirely relieved. My catarrh is so much better. The difficulty in the head is now gone, and I have no discomfort. The weakness in the back, and pain in the kidneys, has all left me, and I rest well at night. There are now no unnatural discharges, and I am happy to say that your medicines have effected such a change in my condition that now I continue to improve all the time.

D., Medusa, N. Y.

CASE 52,121. Spermatorrhea. Symptoms: Diurnal and nocturnal emissions, loss of sexual power and wasting of the organs, general depression and emaciation. Most severe form of the disease. Cure with three months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I have waited several months and find my cure perfect and permanent. Thanks to you my health and manhood have been perfectly restored, and I am as fat as a bullock.

S., Millbrook, Ont.

CASE 4,100. Spermatorrhea. Entirely broken down.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Over eight years ago I visited you at your office this present month, very melancholy and thinking perhaps that in six months I would be lying in my cold and silent grave, and now I am strong and healthy. I never was so healthy in my life. Am married, and we have two of the nicest children you ever saw. I am the happiest man in town, and hope to ever be so. My sickness was contracted through ignorance and self-abuse. I am glad to say that I have had a permanent cure, and thank God. I feel grateful to you and thank you kindly.

Yours very truly,

L., Barnes' Corners, N. Y.

CASE 52,004. Emissions. Loss of weight, strength, and mental power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I received the month's treatment sent for, and took it. It worked like a charm. I have no more emissions, and my weight, energy and strength, are fully restored.

R., Fort Collins, Colo.

CASE 53,859. Spermatorrhea. Five years' standing. Symptoms: Frequent nocturnal emissions, loss of memory, nervous, no energy or strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Pardon me for not sending you a report of my condition before this. Have been waiting to see if there would be any relapse. I am assured that my cure is complete and perfect. None of the symptoms of the disease remain. Your medicines I can recommend as the most powerful and direct to accomplish good I have ever taken. I feel it my duty now to give you my heart-felt acknowledgment for the good done me.

Respectfully,

H., Goshen, N. Y.

CASE 38,973. Spermatorreha. Extremely bad case.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—You have cured me sound and well of the terrible effects of early indiscretion. My case was worse than any I have ever read, and I never expected to get well. With eight months' treatment taken at my home, I have been fully restored. You have my sincere and hearty thanks.

C., Halifax, N. S.

CASE 70,648. Spermatorrhea and Threatened Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *My Dear Benefactors*—Please accept my sincere thanks. Words at my command are inadequate to express my feelings when I realize the great beneficial features of your most excellent remedy. I have spoken to several of my most intimate friends who are similarly affected, and after I took the first dose I was completely relieved, and the flesh I gained was in such abundance that I was scarcely identified by them. I gave part of your *par excellence* medicine to a bosom companion of mine, named —. He became convalescent, but desires another bottle. Write to him at once. Your name will be held in the highest esteem by these invalids, and by

Yours respectfully,

H., Cincinnati, Ohio.

CASE 143,838. Spermatorrhea, with Paralysis and Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Sirs*—Your treatment worked like a charm with me. Before I sent to you I consulted my family doctor, and asked him what he thought of my case. To give you his own words, he said, "J., I think you will be an entire cripple." I then thought I would write to you. I had not taken more than three months' medicine when I was out in the harvest field. I sleep all night, have a good appetite, my back has got well, and I can lay all night. My limbs are stronger, and my nerves are again all right. Upon the whole I am a new man, and my mental powers are much relieved. In eighteen months from the time I placed my case under your treatment, I was better than I had been in ten years, and feel like myself.

Yours truly,

J., Peru Mills, Pa.

CASE 93,264. Seminal Weakness.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Allow me most sincerely to thank you for the great benefit I have derived from your two months' treatment. When I first wrote to you I felt as if my life on earth was short, indeed; but, thank God, through His help and yours, I have been saved from filling an early grave as the results of self-abuse. Before I began treatment I was pale and sickly; I had palpitation of the heart so bad that I often expected to drop dead in the street; I had loss of voice; always felt tired; I had involuntary emissions of semen in the night, which always made me feel weak through the next day; whilst quite often my mind was filled with suicidal thoughts. Such was the price I was compelled to pay for violating the laws of God and nature. Now every thing is changed. I thank you a thousand times, Doctor, for the great good you have done me. May God bless you. I shall always be pleased to recommend your treatment to everybody.

W., Lynn, Mass.

CASE 140,948. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Dear Sirs*—I believe myself to be free of the trouble for which you have been treating me. It seems too good to be true, yet I feel satisfied that I am more of a man than ever before in my life. I have not the time nor ability to thank you in the high-flown language peculiar to testimonial writers, but suffice it to say that I am,

Most gratefully yours,

S.

CASE 44,464. Nervous Prostration.

This gentleman, engaged as the head of a large academy, suffered severely from mental depression, weakened memory, nervous exhaustion, and lack of intellectual power, the result of the delicate drain upon the nervous system and his severe labors. We append his letter after four months' treatment:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My friends all notice and speak of my decided improvement. My health and faculties are again as they were years ago.

Yours,

H., Philadelphia, Penn'a.

CASE 33,928. Spermatorrhea, resulting in Consumption.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I would have been beyond the reach of aid now but for your treatment. I am now enjoying perfect health.

Yours gratefully,

H., Gillie's Hill, Ont.

CASE 42,921. Spermatorrhea, resulting in Dyspepsia and decided loss of strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am deeply indebted to you. The disagreeable head symptoms, dyspepsia and weakness are all gone. I can now eat and digest a meal as any one, and feel well, healthful and energetic. Never have any losses. I was very sick when I commenced treatment, but was speedily relieved.

Yours truly,

S., Charles River Village, Mass.

CASE 44,866. Spermatorrhea, with marked loss of memory, health, and tone of system.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I took treatment of you last summer. The improvement was marked, and I have continued to grow healthier and stronger, notwithstanding I have been busy all the time and have studied very hard. Do not get fatigued as before. I read six orations of CICERO in seven weeks and passed with honor a very close examination. My limbs are solid and strong, whereas before I was weak, and my flesh cold, soft, and clammy. I am in college working hard.

Truly,

P.

CASE 147,411. Approaching Impotency. Renewed health after five months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I can gratefully say I am feeling like a new man since taking your prescription for seminal weakness. While I was in the West two months, my wife received two months' treatment from you, and on my return home, to my greatest satisfaction, her cheeks were as red as roses and her health greatly improved, for which accept our profound thanks. May your honored President live long and do good unto the sons and daughters of afflicted humanity, is our prayer.

W., Aral, Va.

CASE 44,198. Nervous Prostration, caused by Self-abuse.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Your kindness to me I can never forget. I cannot express half my feelings of gratefulness to you. I had despaired of ever getting well. Thanks to your skill I am now a new being.

Yours very truly,

B., Steuben County, N. Y.

CASE 53,816. Nervous Debility, caused by Self-abuse.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My health has improved so that I no longer need treatment. You have my heart-felt thanks for the good you have done me, and may you have as good success in treating the hundreds of others as you have had in mine.

I remain yours very truly,

K., Hartford, Conn.

CASE 53,913. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I shall ever remember you with gratitude. My relief is perfect and permanent. I feel so much better.

I remain yours truly,

J., Jacksonville, Ill.

CASE 254,484. Spermatorrhea; General Debility.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that your medicines and treatment are always ahead of what they are represented, and I hope you will accept my deep and sincere thanks for the good you have done me. My weakness and debility have entirely disappeared, and I can say that the expense of the six months' treatment I received from you, has been repaid a hundredfold, by the benefits it has effected in my condition.

F., Starkey, N. Y.

CASE 54,803. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have taken the last of the medicine which you sent me, and feel satisfied it has entirely cured me. I return my thanks to you for the good you have done me.

F., East Liverpool, Ohio.

CASE 69,116. Seminal Weakness, with Cancerous Testicle.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It has now been over two years since you treated me and found it necessary to remove one testicle on account of cancerous disease, that must soon have destroyed life had the operation not been performed. I feel myself a strong, healthy man, having had no symptoms of the seminal weakness for months past.

Yours,

P., Pittsburgh, Penn'a.

CASE 51,417. Impotency.

I am getting along so well with the medicine that I am a standing wonder to my friends, and I shall not cease, while life lasts, to praise the skill that has brought about such miraculous results.

Yours truly,

K., Chillicothe, Ohio.

CASE 67,004. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am only too happy to say that I have fully recovered my powers in every particular since placing myself under your treatment. I would not take \$5,000 for the good you have done me. I am only sorry that I did not go to you before wasting time and money on quacks.

T., Philadelphia, Penn'a.

CASE 67,208. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—When placing myself under your treatment, I was told that my case being an exceedingly bad one, it would probably require six months in which to effect a perfect cure. After taking your remedies four months I found myself in perfect health, and have remained so ever since. I cannot express the gratitude I feel for you, and can never half repay the debt of gratitude I owe you. There are quite a number of young men whom I have reason to suspect you might benefit.

Gratefully yours,

T., Norfolk, Virginia.

CASE 67,070. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have now returned home a new man, after four months' treatment from you. I need no more medicines now. I would urge all suffering to go to you for help. Thanking you for your services, I remain

Yours truly,

R., Bunch, Iowa.

CASE 431,637. Impotency, with Nervous Debility and Liver Disease.

This gentleman applied for the relief of the following symptoms: Exhausting and frequent seminal emissions, losses in the urine, want of manly strength, nervous prostration, indigestion, torpid condition of the liver, headache, nausea, and constipation. After a course of five months' treatment he writes:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am very grateful to you for the good you have done me, and I feel like a man now. It is sometime since I left off medicine. I have continued to improve, and I feel better than I have for years before treatment. I am happy at the restoration of my health and vigor. I shall recommend you to all sufferers. Hoping you will continue to be successful, I remain,

Yours truly,

P., Canaan, Conn.

CASE 111,489. Seminal Emissions, Loss of Memory and General Decline.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Inclosed please find money for my last supply of medicines. You seem to understand my condition thoroughly. My color, appetite, and strength have improved wonderfully, and my sleep is sound, undisturbed and refreshing. Under the influence of your medicines I have completely recovered my mental and physical powers, and I feel that I am able to discontinue further treatment. The emissions have become less and less frequent until now they do not trouble me at all.

I remain, yours truly,

H., Eagle Springs, Coryell Co., Tex.

CASE 51,203. Spermatorrhea. Perfect Cure. His letter before treatment, and after.

(First letter.)

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—It was my pleasant privilege to read concerning your skill in the treatment of all kinds of diseases, and concerning your reputation, which is most justly merited. Encouraged by these facts to place implicit confidence in you, I beg leave to state my own case as clearly as I may be able. It is as sad as it is fatal if no thorough cure can be effected. I have from my twelfth year onward been practicing, though not excessively, the evil, *self-abuse*. Although I have been led to abandon the pernicious habit for several years, my age being twenty-four, the horrible effects have not disappeared. The serious result is that I am suffering from spermatorrhea. An involuntary discharge of the seminal fluid occurs invariably once, not infrequently twice, every week during sleep. The genital organs have become diminished in

size. I will proceed to state the symptoms which I have been able to observe. They are—disposition to solitude, inaptitude for study, indolence, forgetfulness, melancholy, weakness in the back (especially perceptible after standing), a lack of confidence in my own ability, want of energy, sometimes pain in the chest, elbow, arm, knees, and loins. Uneasy nights, disturbed and highly disagreeable dreams, becoming more and more irritating as the time for the discharge of the seminal fluid draws nearer, also a desire to lie longer in bed in the morning.

Now, dear Doctors, permit me to ask your kind advice as to what means are to be taken. I have tried numerous remedies for more than a year, but to no effect. My suffering grows severer. Please reply as speedily as you may be able. If you be so kind as to honor me with an answer, please state the amount of money needed for your services, which shall be forwarded at once. Please find inclosed one dollar, remuneration for your kind services.

Very respectfully,
M., Wheeling, Cook Co., Ill.

(At the close of treatment.)

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have finished the eight months' treatment; had I been able to follow the directions more closely, three months' treatment would have effected a permanent cure of my case. Now I am well, body strengthened, mind invigorated, memory revived, energy to work restored, cheerfulness and bright hopes, once altogether lost, are now fully regained. Indeed, I feel like a new being. And now, dear Doctors, in closing our important correspondence, permit me to render my heart-felt thanks for your kindness to me, and for the benefit received from your invaluable treatment. Adieu; may God grant you a long life, that you may benefit many an afflicted one.

Very truly yours,

M., Wheeling, Cook Co., Ill.

CASE 464,255. Masturbation. Loss of flesh and mental power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—After three months of your treatment, I find myself cured of one of the worst habits that it has ever been the lot of man to fall into. My whole system is invigorated; I have no more weak back nor legs; no more emissions; my strength is greatly increased, and my weight is more than it has ever been before. The dull, heavy feeling in my head is entirely past, and I can truly say that I feel like a new man. Hoping you will do as much good in the future as you have in the past, is the wish of,

Yours truly,

B., Holyoke, Mass.

CASE 91,656. Spermatorrhea. Obstinate case of eight years' standing.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I have taken seven months' treatment from you, and to-day I am a well man. My friends are surprised at the great change which has taken place in me. The emissions have ceased entirely, and I am strong and well. I am a thousand times obliged to you for the good your treatment has done for me.

Respectfully yours,

U., Topeka, Kansas.

CASE 461,306. Onanism. Melancholia; contemplated suicide.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Having waited several weeks after finishing the last medicine, to see if there would be any relapse, I now send you a report of treatment. I believe I am thoroughly cured, not only of poor health, but of all desire to abuse myself. I have regained health, spirits, and confidence. Am married, something I have long desired, but never before dared to attempt. Please accept my sincere thanks, gentlemen. Your medicine has saved me from a suicide's grave.

H., Denver, Col.

CASE 110,838. Seminal Weakness and Fistula in Ano.

A case of anal fistula that had been unsuccessfully treated by Prof. —, of Nashville, who had operated with the knife. He had also been unsuccessfully treated by several home physicians who stated that his symptoms of spermatorrhea were all that could be described, and more too. The sensations of crawling and itching in the rectum were very severe, and as a result of weakness there was a serious palpitation of the heart, and general debility. The generative organs were unduly excitable and weak. He complained of weakness in the rectum and loins, with irregularity of the bowels, trembling and weakness of the entire system. There was profuse discharge from the fistula and also from the urethra. We undertook his case without making any promises of a radical cure, as it seemed that the disease had progressed so that it would be impossible to effect more than satisfactory improvement in his general condition, and a palliation of the symptoms of disease. At the end of seven months' treatment he writes as follows:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The result of the

treatment you have sent me is a permanent cure of the fistula beyond a doubt, and in a magical manner. My heart is very much improved, so that it does not trouble me in the least. My health is perfect in every way. It is unnecessary for me to order any more medicines, but should I think at any time that a little is required to keep me in good health, I will order at once. I think that I am entirely through with the fistula and sympathetic weakness, and I can truly say that your remedies delivered me from the jaws of death. With sincere thanks to you, I am, yours for ever.

D.

CASE 140,056. Spermatorrhea.

The following long-standing and aggravated case of seminal debility began to yield at once under the specific influence of our medicines. Frequent nocturnal emissions were present, and the semen also passed off, unobserved and unsuspected, in the urine; of course a ceaseless vital drain of this character began quickly and profoundly to impress the constitution, so that when the patient under consideration applied to us for relief, the most unmistakable symptoms of commencing organic disease of the heart and lungs had plainly declared themselves to be present. Like many hundreds of similar cases which we cure annually, the disease yielded promptly and perfectly to the well-directed efforts of our specialist in this important branch of practice; indeed, so easy, swift and perfect was the cure that the patient failed to realize the necessity of continuing the treatment a few weeks in order to insure himself against the possibility of a relapse, and discontinued his correspondence with us, whereas it is in precisely such cases that we recommend the treatment to be not too abruptly discontinued.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Your kind favor, thoughtfully inquiring after my health, came duly to hand. In answer, permit me to say that it was not my intention to take further treatment as I considered my cure to be perfect, all local and general symptoms having wholly subsided before I had finished the month's course, and thus far manifesting no disposition to return. However, in the light of your wisdom and experience, I have reconsidered the matter and now believe with you that another month's course of treatment is advisable, in order effectually to guard against the possibility of a relapse. I accordingly inclose you the price of the additional month's course. The second morning after commencing the use of your medicines I awoke refreshed in body and mind, and this experience has been repeated every morning since. The emissions were arrested at once, and I have not had a single unnatural discharge since, except once when I experienced a slight nocturnal emission, which, however, was followed by no depressing after-effects, but altogether the reverse. I feel so much stronger and better in all respects that it is a positive pleasure for me to do a hard day's work now.

Respectfully,

B., Crystal Lake, Wis.

CASE 86,291.

This gentleman had suffered during eleven years from seminal weakness as the result of indiscretions in youth; nocturnal emissions were present, and there was also a seminal loss with the urine, and at stool; the patient's memory was greatly impaired and his mind otherwise affected from the vital drain; he was dyspeptic, his bowels were costive, and threatening symptoms of consumption had already begun to manifest themselves when he came under our care. Two months of our special treatment, at the patient's home, effected a perfect and permanent cure, and completely arrested all abnormal seminal losses. The following grateful letter is from the gentleman in question:

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Permit me to say that, six months after having discontinued your treatment, my cure remains perfect. This great permanent and enduring benefit was secured to me through only two months of your skillful treatment and careful management of my case. Your medicines had a wonderful control over my disease, driving away its terrible symptoms as if by magic; they imparted to me a new power, filled my body and mind with unusual vigor, and transformed me from one racked with pain and living death or worse, to a full measure of health and happiness. I feel that if I had not been opportunely and successfully treated by you, that my life would have been permanently blighted, and that the happy and contented mind that now inspires these lines would ere this have been dethroned of reason. I feel that you have been my saviour. I have not had a single nocturnal emission since leaving your treatment, six months ago. Thanking you, gentlemen, from the depths of a grateful heart, I remain,

Your obedient servant,

G., Cayuta, Schuyler Co., N. Y.

Did the interest of our readers demand it, we could add to the preceding list an almost endless number of extracts from letters written by grateful patients, expressing their heart-felt thanks for having been

cured of spermatorrhea and impotency by our treatment. But we have we trust given sufficient to illustrate our great success in dealing with these maladies.

A Caution to the Afflicted. We are daily consulted by persons suffering from spermatorrhea and impotency who have been victimized by ignorant charlatans. Some seek to dupe and swindle the unwary by claiming to have themselves been cured of spermatorrhea or impotency by some prescription, which they offer to send free to any sufferer. When the prescription is obtained it is found to consist of a few articles well-known to every druggist, coupled with certain arbitrary and fictitious terms, unknown to everybody and not to be found in any medical work extant. Following the prescription is a modest suggestion that if it cannot be filled by the home druggist, the benevolently-disposed party furnishing the prescription will be pleased to send the medicine, already prepared, for from three to five dollars. Of course, the whole scheme from beginning to end being a swindle, when the "medicine" is obtained and taken it proves entirely useless. Skill and genuine merit do not go begging. Men who spend hundreds of dollars for the publication of advertisements offering to give away valuable information can always be safely set down as swindlers.

In the public prints will be found advertised various ready prepared, "put-up," or proprietary, so-called "remedies," "Specifics," "Boluses," "Pastiles," "Rectal Pearls," "Urethral Crayons," "Voltaic Belts," "Galvanic Belts," "Batteries," and "Pads," all recommended as infallible remedies for spermatorrhea and impotency.

A vast experience in the treatment of these affections has satisfied us that each case must be studied and treated according to the symptoms manifested, and that medicines that are adapted to one stage of the disease are entirely unsuited to other stages of the same case. No "Pad" or "Battery and Pad," "Galvanic" or "Voltaic Belts," "Battery," "Bolus," or "Soluble Crayon," ever did or can help a case of this disease, except it be in the imagination. Although the proprietors of the most popular proprietary medicines in the market, medicines carefully adapted to the cure of the diseases for which they are recommended, yet, should we attempt to get up a general remedy to cure spermatorrhea and kindred maladies, we are certain it would be an utter failure, and this is entirely true of all such preparations now and heretofore offered for sale, and, from the very nature of the diseases they are recommended to cure, ever must be. Each case must have medicines carefully prepared to meet the conditions present, and when these conditions, from the effects of treatment or other causes, change, the treatment must be varied accordingly.

Positive Injury instead of benefit often results from the employment of some of the nostrums advertised for the cure of spermatorrhea, impotency and kindred affections. Especially have we found that the use of "Soluble Urethral Crayons," "Boluses," "Pastiles,"

and kindred contrivances, which are so extensively advertised, are exceedingly injurious, and often render otherwise moderate and simple cases, complicated and incurable.

Although of pretended French origin, they are evidently the invention of an ignoramus, who knows nothing of the delicate anatomy of the generative organs, or of the proper treatment of the diseases incident thereto, for none other would have thought of such a preposterous plan of treatment. No man should insert such absurdly devised and mischief-breeding contrivances into his urethra (urinary canal), for thereby he is almost sure to do himself a permanent injury. So far from having been invented by an eminent French surgeon, as claimed, such treatment is entirely unknown in France and ever has been, as the writer well knows from personal observation and inquiry while sojourning in that country and visiting its most noted hospitals and medical institutions.

Young Man, if you have through ignorance fallen into practices that have arrested physical growth and development in any of your organs or parts, shun all such unscientific and worse than worthless contrivances as you would shun a pestilence. No matter how plausible the web of arguments woven to entrap you, be assured they are the utterance of knaves who care not what false hopes they encourage so they secure your money.

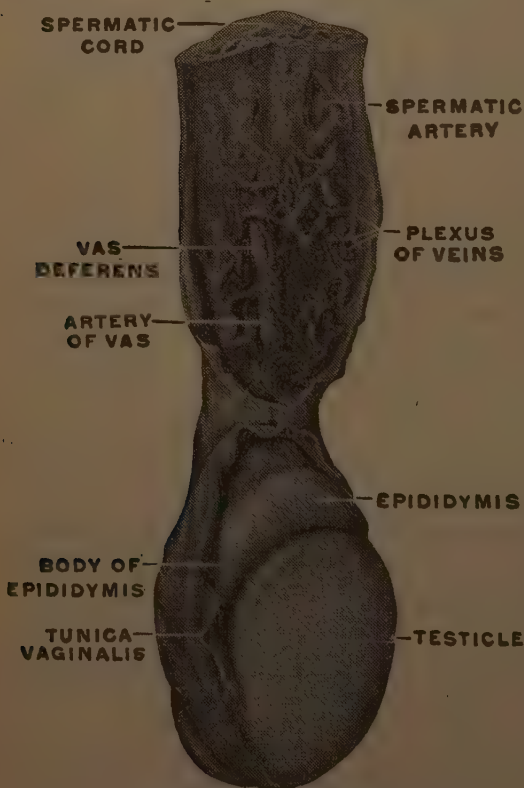
Consult only those whose well-known skill, experience and integrity will insure honest dealings and the most scientific treatment known to the "healing art," and who supply the latter at reasonable cost.

Be assured also that when through proper treatment your weakness and functional derangements are overcome, the parts that have suffered therefrom will regain their normal strength and development. Nature often accomplishes wonders in this direction when aided by the skilful practitioner.

VARICOCELE;

*OR, ENLARGED VEINS OF THE SCROTUM
SOMETIMES CALLED FALSE RUPTURE.*

Probably no affection of the generative organs has been given more attention by surgeons than this. Its great frequency, being present in about one-third of all cases of spermatorrhea, and its disposition to result in impotency and wasting away to the testicles, bring it constantly before the profession.



The Varicose Veins and their relations. Showing necessity for delicate surgery.

There are more rejection of candidates for the army and navy for this cause than any other. Sufferers lack endurance.

Causes.—

Varicocele commonly results from long continued fatiguing exercise, in the upright position, heavy lifting, jumping, straining, severe constipation, injuries from horseback riding, bicycle riding, especially the latter, or any obstruction or obstacle to the free return of

blood through the spermatic veins. Self-abuse and excessive sexual indulgence are also prolific causes of varicocele.

When the spermatic veins are overdilated to such an

extent that their tonicity is impaired, they gradually lose their capacity for transmitting the blood, and a slowly increasing enlargement and tortuosity of veins result. This goes on, becoming steadily more marked, until the pressure of the engorged vessels upon the spermatic cord impedes the full circulation of blood in the testicle and causes a wasting and softening of this gland. A loss of sexual power and increasing weakness of the generative organs generally follow this gradual destruction of the testicle, and sometimes total and incurable impotency results.

This affection is also designated by the terms *circocoele* and *spermatocele*. It consists of an enlargement or varicose condition of the veins of the scrotum or spermatic cord, and affects the left side more frequently than the right. This is due to the fact that the spermatic veins of that side are longer, more dependent and tortuous, and, consequently, support a greater column of blood than the other side. The enlarged veins feel



Early stage of Varicocele.

like a bundle of earth-worms. The knotty and tortuous vessels sometimes form quite a large tumor, which is, however, but rarely sensitive to the touch, yet sometimes causes a feeling of weight in the scrotum and loins, and sometimes produces a sensation of numbness in the thighs. In warm weather, and when the patient takes very active exercise on foot, the veins become most distended and often give rise to great uneasiness and sometimes to considerable pain.

The characteristic symptom of varicocele is a swelling or enlargement of variable size which makes its appearance in the scrotum. The conditions of the scrotum which are likely to be confused with varicocele are hernia or rupture and hydrocele. Varicocele and hernia are usually reduced, or apparently disappear, when the patient lies down on his back. The prone position does not influence

hydrocele, or dropsy of the scrotum. A varicocele and a hydrocele fill from the bottom of the scrotum; a hernia protrudes and descends from above. On coughing, a varicocele gives no impulse to the finger placed in the inguinal canal. The testicle can be plainly felt in varicocele and hernia, but not in hydrocele when the dropsy is well developed. An operation for hernia is equally as successful as an operation for varicocele.

When varicocele of an aggravated or largely developed type is present, associated with any weakness of the generative organs, as spermatorrhea or impotency, it must be cured before the organs can regain a healthy condition, for by the constant pressure of the abnormal quantity of blood and enlarged veins upon the spermatic cord, arteries and testicle, the irritability, weakness and wasting are increased. The use of suspensory bandages, with strongly astringent lotions will, in mild cases, produce relief and sometimes cure. Except in the worst cases, it is well to try these means before resort is had to operative surgical treatment, unless the patient is anxious to be cured in

CONFINED TO BED BUT HALF A DAY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :



S. SIEBERNS, ESQ.

Gentlemen—I am 23 years old and a farmer by occupation. Had been troubled since I was fourteen years old with varicocele on the left side from working too hard. I suffered untold misery and worry until January 1907 when I made up my mind to try my last resort for relief—that was at the Invalids' Hotel and Surgical Institute. I had not much faith in it as I had been swindled before by quack doctors who claimed they would cure me in a short time for little cost. Arriving at Buffalo and going to the Invalids' Hotel and Surgical Institute I was very much surprised to see such a large and well managed Institute. February 1st I was operated on—was entirely free from pain or suffering, and not being under the influence of drugs of any kind, could watch the surgeons all the time. Was confined to my bed only half a day, and in three weeks' time I was able to go to my home and attend to my work. I must say that the boarding and the care are the best. It is fourteen months ago now and I must say I am perfectly cured from that torturing ailment. I would advise all sufferers to lose no time but go right to the Invalids' Hotel and Surgical Institute and receive expert treatment.

Yours truly,

SIEBERN SIEBERNS.

a more speedy manner. The treatment by suspensory bandage and lotions is necessarily somewhat slow in producing remedial results; yet, some quite well marked cases have, in our experience, been cured by such means perseveringly applied. Although many who have been unable to come to us for an operation have been cured by suspensory bandages and our improved lotions applied to the affected parts, in all cases in which the veins are much enlarged, we recommend the sufferers to undergo our surgical treatment, which is painless in its execution and radical in its results.

It has been recognized by physicians and surgeons for over a century, that in bad cases of varicocele a cure can only be certainly and permanently effected by a surgical operation. Soldiers and sailors are ordered for operation when this disease develops or are discharged as incapacitated. Many methods of operation, advanced by the prominent surgeons of every age, have met with failure, except where the veins are excised. Even this is a very delicate matter as any one can readily understand by looking at the masses of nerves and

VARICOCELE ON BOTH SIDES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—This is to certify that I was operated on for the radical cure of varicocele on both sides, and am to-day a well man. In March 1896 while running some loose horses and riding horseback I was thrown to the ground and hurt. In a few days I began to feel pains in my left side. Pen could not describe what I suffered in the next year. I spent three hundred dollars with quack doctors, only to get worse. Seeing in one of your pamphlets that you treated varicocele I wrote you expecting likely to get humbugged again, but indeed such was not the case. To-day I stand a living monument of the treatment—without it I would be in my grave. No man could ask better board or treatment than is given at your Institution. I also wish to state that my wife (whom I married three years after the operation)



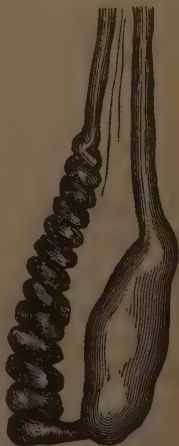
F. SLOCUM, Esq.

has taken your proprietary medicines for diseases peculiar to women, for the last eight years and says they have no equal. She is never without the "Golden Medical Discovery" and "Favorite Prescription." We never miss an opportunity to speak a good word for you.

Gratefully yours,

FRANK SLOCUM.

blood-vessels in the illustration on page 802. The surgeon must be experienced and skillful if the best results are to be accomplished. We point with pride to our records, by which we are shown to have operated upon over a thousand cases by our original method, obtaining in each and every instance a perfect cure, without a single alarming symptom or a death ensuing. This we think is sufficient evidence of the perfect safety of the operation and its superiority over every other method. To every sufferer with the disease, we would recommend it as a positive means of securing a permanent cure. Various worse than useless devices are advertised by quacks, who, as a class, are afraid to undertake surgical treatment for the cure of varicocele. One has what he calls a "varix clamp," or "clasp," to be worn upon the enlarged veins. Many "compressors" and other equally useless devices are advertised and sold for the same purpose. These are not only perfectly worthless, but positively dangerous in their application. The pressure they make upon the spermatic cord, nerves, and artery, is very apt to result in impotency and a rapid wasting away of the testicles. In-



Testicle greatly wasted from Varicocele.

VARICOCELE OF TWELVE YEARS' STANDING.



Mr. SANDBERG.

DR. PIERCE, PRESIDENT, INVALIDS' HOTEL,
Buffalo, N. Y.

Dear Sir—Having been a sufferer from varicocele for twelve years I went to your Institution, March 22, 1886 and was successfully operated on for that trouble. Ten days from the time of the operation I returned home radically and permanently cured. I advise all who require medical or surgical aid to consult the Staff at Dr. Pierce's Invalids' Hotel. I am also thankful to you for the kind attention I received while at your Institution.

Yours truly,

FRANK A. SANDBERG.

jections of caustic fluids into the veins, with the view of causing their obliteration, is not only extremely painful but is positively dangerous and may do such injury to the parts as to cause permanent damage. Patients should avoid all the catch-penny devices recommended for varicocoele, for not one of them is worth a moment's consideration.

Even a moderate degree of morbid enlargement of the spermatic veins will sometimes cause such engorgement and obstruction to the free circulation of the blood in the testicle, as to cause gradual wasting or shriveling of that organ. In some cases the morbid condition will give rise to seminal weakness, or spermatorrhea. Many such cases are trifled with by quacks using medicines when they can only be cured by surgical interference.

To illustrate another feature: Mr. B., of Colorado, applied at the Invalids' Hotel and Surgical Institute and said he had for five years been troubled with nightly emissions of semen and his testicles were gradually wasting away. He had been under the treatment of men making great pretensions as specialists, to whom he had paid several hundred dollars in the vain hope of getting cured of spermatorrhea. They treated him with medicines only, and did him no good whatever. On examination, we found a very varicose or enlarged condition of the left spermatic veins, and gave it as our opinion that the seminal loss was wholly due to this abnormal condition and

CURE IS PERMANENT.

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL,
665 Main St., Buffalo, N. Y.

Dear Sir:—I went to your Institution after I had been suffering a long time. I dreaded an operation but after I was examined by one of your kind doctors, and given advice, I felt perfectly safe in his hands, so I underwent the operation at 11:45 o'clock on Thursday, and Friday morning I got up and went to my breakfast, feeling all right. From then on I regained my health through the kind and skilful treatment of your Medical Staff. You have the kindest and the most skilful doctors and nurses that I ever met. I felt perfectly at home from the first day and when my time was up I hated to leave. I can truthfully recommend the Invalids' Hotel and Surgical Institute to other sufferers for instant relief.

I will close, wishing your Institution the greatest of success.

From a grateful patient.

JAMES C. BOLTON.



MR. BOLTON.

could only be cured by an operation that would remove the varicocele. The operation was promptly performed. In two days he was able to leave his bed, and in ten days started for home. Some months thereafter we received a letter from him wherein he said: "The enlarged veins continued to absorb and grow less and less, until, in a few weeks' time, all unnatural enlargement had disappeared. With a steady improvement in the condition of the veins, I experienced corresponding improvement in my general health, and the seminal losses grew less and less, and finally, long ago, disappeared entirely. I feel that my manhood, with all the powers that should belong thereto, are mine to enjoy. In other words, my restoration to health is complete. Had I saved the large amount of money that I fooled away on those quacks, and given it all to you, I feel that you would then have been only fairly paid for the great good you have done me."

The foregoing is but a fair sample of letters that we are constantly receiving from those who have pursued useless treatment for spermatorrhea dependent upon varicocele, and have been speedily cured by our expert operation for this malady. Among the great variety of operations in surgery for various diseased conditions performed by our surgeons, none have been attended with more uniform satisfaction and perfect success, than has our operation for varicocele.



P. P. JAMES, ESQ.

SUFFERED FOR TWENTY-FIVE YEARS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After suffering for about twenty-five years with varicocele and seeing in your Medical Adviser that you could operate upon and permanently cure a man of that disease, I visited your Institution over a year ago and was successfully operated upon by one of your eminent surgeons. After staying a short time I returned home, and can say that I am permanently cured of varicocele. While there I was treated very kindly and I cannot say too much in praise of your Institution and your surgeons.

I would advise all sufferers who can do so to visit Dr. Pierce's Invalids' Hotel and Surgical Institute at Buffalo, N. Y.

Very respectfully,

P. P. JAMES.

A PAINLESS OPERATION.

By the injection of a few drops of a medicated solution under the skin, at the point where the incision is to be made, we are now able to produce such complete local anæsthesia as to render the operation *entirely painless* without the administration of either chloroform or ether. This is an important consideration, as many are averse to taking chloroform or ether, and now that we are possessed of an agent that produces, locally, *complete insensibility to pain*, we are very glad to be able to dispense with their use in all such minor operations. Many examinations heretofore very painful, (such as examination of the bladder for stone, or of the deep urethra for stricture), are now rendered *entirely painless* by the use of this wonderful agent.

A great variety of surgical operations are now performed by our surgeon-specialists without any suffering on the part of our patients, by this local use of an anæsthetic solution injected into the parts to be operated upon. Formerly we were obliged to administer chloroform or ether, or subject our patients to a great deal of suffering. Our specialists were among the first surgeons in this country to employ local anæsthesia successfully. We regard it as a great boon to our patients, and never withhold it in any case where it can be employed to prevent suffering, its use being attended with no danger and followed by no bad or disagreeable results.

VARICOCELE.

Health Much Improved Since Operation.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—It is with great pleasure that I inform you of the fact that the treatment which I received at your hands has proved a complete success.

You will find, by consulting your records, that your surgeon operated upon me for a varicocele of long standing, and of considerable size. The operation has done away with the difficulty completely, and has given me great relief. My general health has also improved very much since the operation was performed. I am,

Most respectfully yours,

JAMES H. BROWN.



MR. BROWN.

OUR PAINLESS OPERATION.

Having operated with unvarying success, upon several thousand cases of varicocele, at the Invalids' Hotel and Surgical Institute during the past twenty-five years, we now invite special attention to the results of our peculiar operation, which is neither severe nor dangerous, and from which the patient makes a much more rapid and in every respect more satisfactory recovery than from other operations in use by surgeons generally. In our practice we have never failed to secure the happiest results from our operation. The saving of time is also of importance to the laboring man as well as to the millionaire. Instead of being confined to his bed for ten or twenty days, and to his room for a month or more, as is the case following other operations, the patient is not confined to bed at all, and can generally return home in a week or ten days at the longest. The only precaution necessary is that he should, for a reasonable time after the operation, wear a well-fitting suspensory bandage. This can, in a little time, be entirely dispensed with. When we contrast these results with those obtained from ligation, graduated pressure by "clamps," suture pins, or the slicing off of a part of the scrotum, and suturing, or stitching, the wide gaping wound so caused, (as practiced to-day by some sur-

VARICOCELE AND HYDROCELE.



S. R. McWILLIS, Esq.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at Dr. Pierce's Invalids' Hotel and Surgical Institute, in Buffalo, N. Y., for the cure of varicocele in the left side, and hydrocele in the right side of long standing, I take pleasure in certifying to the speedy and certain relief afforded and the painless nature of the operation as performed by the surgeons of the above mentioned Institute. I feel that my health is fully restored and that the good result is permanent, as there has been no tendency towards a return of the disease. I desire to express my thanks to Dr. Pierce's Medical Staff for their skill and attention. I most cordially recommend all per-

sons requiring skillful medical treatment to apply to the Invalids' Hotel and Surgical Institute.

Yours very truly,

STOTON R. McWILLIS.

geons), the marked superiority of the results obtained through our superior method of operating on this affection must be apparent.

We wish to emphasize the fact that we do not use ether or chloroform. Our operation is painless and safe. The patient is not confined to his bed; in fact, a day or so after the operation he is able to receive electric treatment, mechanical exercises, massage, etc., for the improvement of the general health.

We advise against the ordinary surgeon performing these operations. The scrotum and groin form one of the most difficult parts of the body to get surgically clean, because of the many folds they contain which are the hiding places of disease germs, and if these get into a wound they invariably inoculate it and suppuration follows. Our patients receive a cure of the varicocele, and avoid being inoculated with another and more serious disease.

A very large part of those cured by our treatment have previously spent far more money for worthless "electric suspensories," "equable scrotal compressors," "scrotal clamps," various "rings," and other "jim cracks," than was paid us *for a radical and permanent cure*. Some of these instruments are so formidable as to suggest the racks and thumbscrews of the middle ages. Such useless appliances often weaken the scrotal muscles by the unnatural compression which they produce and make the discomfort much worse when they are discontinued than before their use.

For such cases as cannot come to us at once for an immediate and *perfect cure*, we have a common sense method of treatment, comparatively inexpensive, that gives considerable relief and comfort immediately and in mild cases often effects a complete cure. This treatment leaves the scrotum and its contents in an improved, strengthened and more healthful state.

TESTIMONIALS.

If the following letters had been written by your nearest, most respected and trustworthy neighbors, they could not be entitled to more confidence than they now are, coming, as they do, from intelligent citizens, each one of whom, in his own neighborhood, enjoys the full confidence of all his acquaintances. These letters are taken at random from among hundreds of similar ones, received from former patients of ours, residing in all parts of the United States and Canada, and if it would add anything to the endorsement in the way of giving greater confidence in our ability to treat successfully the malady under consideration, we could multiply many times the letters we here introduce. To publish more, however, would seem to be tedious repetition, for there necessarily must be a sameness in all such letters testifying to our skill, therefore, we rest our case with the limited number of endorsements which we have room for in this little book.



MR. NORRIS.

VARICOCELE AND SPERMATOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered for a long time and doctored with several doctors, but received no benefit. Finally, I went to Dr. Pierce's Invalids' Hotel and Surgical Institute, Buffalo, N. Y., where I was operated upon for varicocele on the right side and spermatocele on the left. Both operations were painless and were performed without the use of chloroform or ether, a local anæsthetic being used. I left the Institution on the ninth day, feeling like a new man.

To all those suffering with troubles similar to mine, I heartily recommend the Invalids' Hotel as the place to go for painless operations and fair and square treatment.

Respectfully yours,
CLOYD NORRIS.

VARICOCELE.

Health Steadily Improving Since Operation.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen — The operation which you performed for my varicocele has proved a permanent cure. Ever since the operation my general health has steadily improved. It has now been eighteen months since the operation was performed and my health is better than it has been for more than four years. I am very glad that I went to your Institution for treatment.

You are free to use this statement over my signature if it will help others.

Yours truly,

Joseph Smith

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Main St.,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute for the cure of varicocele, which was caused from heavy lifting, I take pleasure in informing you that it is entirely cured; it was a varicocele of a number of years' standing and a bad case. It has been three years since I was operated upon and I have not experienced any trouble from it since; in fact I feel that I am now entirely cured. *The operation is painless and gives entire satisfaction in every respect.*



D. H. MILLER, ESQ.

I advise all who are suffering from this or any other chronic disease to take treatment at the Invalids' Hotel and Surgical Institute and they will be well rewarded by so doing.

Yours respectfully,

DAVID H. MILLER.

VARICOCELE.

DR. PIERCE'S INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Gentlemen—I am glad to say that I am enjoying life 100 percent. better than at this time last year. It is about a year ago since I decided to go to your magnificent institution for treatment. This time last year I was greatly bothered with varicocele, which caused me much pain, both mentally and physically. I consulted local physicians who told me to wear a suspensory for relief. I did so until June when I decided to go to Buffalo. I arrived at your Institution June 22d, I think, and was operated about the 23d or 24th, and was confined to bed only about eighteen hours. The operation was absolutely painless, a local anaesthetic being used.

I left Buffalo on the 6th of July and went to work about three weeks afterwards, farming. Ever since I have gained in health and now enjoy life to the fullest extent, while before I was dull, listless, and always worrying about my condition, I suppose like hundreds who are suffering in silence. But I would advise any one to wake up and go to the Invalids' Hotel if there is any need for it at all.

Yours respectfully,

ARTHUR BLACKBURN.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Dear Sirs—I received a book from you yesterday and it recalled to my mind the debt of gratitude which I owe you.

Nearly eight years have passed and I have failed, or neglected, to acknowledge the radical cure resulting from the operation for varicocele that you performed upon me at your Invalids' Hotel and Surgical Institute. I stayed at your Institution eight days, came home, and in two weeks resumed my duties as conductor, and have been a sound man ever since. For years I suffered everything but death, and that, at times, would have been a relief, but I kept my troubles to myself. Finally I gained possession of one of your "Medical Advisers," studied up my case, and, when convinced that an operation was the only means of relief, I started for Buffalo—no one knew for what except my wife.

All of the riches of this earth would not tempt me to be in a like condition if there was no cure.

I thank you a thousand times for your kind treatment.

You are at liberty to use this testimonial at any time.

Yours truly,

C. E. GRIFFIN.



C. E. GRIFFIN, ESQ.

VARICOCELE. THE RESULT OF INJURY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Nine years ago I was struck with a springing pole, causing the spermatic cord to swell badly. I applied for medical aid and was told that no harm would result. But I grew worse, and spent over one hundred dollars with quacks and received no help.



C. F. L. DEHAVEN, ESQ.

Four years ago while reading a chapter in Dr. Pierce's Common Sense Medical Adviser, I noticed that no hesitation was made in stating that a permanent and radical cure of varicocele could be made at the Invalids' Hotel and Surgical Institute. I went to the Hotel and the result was I returned home in eleven days permanently cured.

I cannot speak in too high praise of the surgeon, and his delicacy and kindness in performing a painless operation; or of the nurses, who almost hourly visit the invalids and minister to their comfort. The Institution is fully equipped and nothing is left undone that can relieve suffering. I conversed with a great many patients while at the Invalids' Hotel and language could not express their delight at their treatment there.

I earnestly urge all invalids to save time and suffering by being treated at the Invalids' Hotel and Surgical Institute where the latest and most improved methods are used, and operations are made painless and where everything is delightful and comfortable. I owe my life to the tenderness and skill of the surgeons and nurses at the Invalids' Hotel and Surgical Institute.

Very truly yours,

CLARENCE F. L. DEHAVEN.

**HAS BEEN PERFECTLY WELL
FOR SIX YEARS.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

Gentlemen—I was operated on for varicocele July 15th, 1898, at your place. I am perfectly well. I only stayed in bed one day and I can cheerfully recommend you and your place of business to any body. You may refer any one to me that you may want to.

Yours respectfully,

M. S. VAN CLEAVE.

M. S. VAN CLEAVE, ESQ.

**BAD VARICOCELE OF MANY YEARS' STANDING.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



D. E. MOOREFIELD, ESQ.

Gentlemen—I take pleasure in recommending your Invalids' Hotel and Surgical Institute as first-class in every respect. Some four years ago I was there and had an operation performed on me for a very bad varicocele with which I had been troubled some 15 or 20 years. The operation was made painless by the use of local applications. After staying at your place about twenty days (longer than is generally necessary) I was able to make my long trip home. The operation was a very successful one, considering the long time my trouble had been neglected, as I have suffered little or no inconvenience since. I saw a very large number of patients at the Invalids' Hotel from all parts of the United States and Canada, and all of them seemed to have a very high opinion of the treatment they were receiving from your Specialists, and I know personally, of several remarkably successful operations performed by your skillful surgeons while I was there.

Respectfully,

D. E. MOOREFIELD.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:



J. C. WOLLEY, ESQ.

Gentlemen—In the winter of 1908, I went to your Institution to be operated upon for varicocele. It was a painless operation, was a success, and there were no bad effects afterward. In ten days after the operation I was able to go home—a distance of four hundred miles.

I cannot say too much in regard to the treatment and care I received while there, from both physicians and nurses, and your patients with whom I became acquainted all seemed to be well pleased with the ease and comfort of the surroundings, as well as with the manner in which they were treated.

My advice to all sufferers from varicocele is to go at once to the Invalids' Hotel and be successfully operated upon by the most skillful surgeons in the world.

Yours respectfully,

J. C. WOLLEY.

VARICOCELE.

Spent \$500.00 With Other Doctors to no Purpose.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had been troubled with varicocele for nine years, and had given up ever being cured. After spending \$500.00, with medical quacks I then went to the World's Dispensary Medical Association as a last resort. One of their skillful surgeons performed an operation upon me which was entirely painless. I conversed with several other patients, who had the same disease. They seemed happy to know that there was such an Institution that could relieve suffering humanity. The surgeons and nurses were so good and kind to us and gave us the best of attention and even the patients had a very fraternal feeling toward each other.

Your Institution is finely equipped and has the best of accommodations. Accept my thanks.

Yours truly,

A D Bryson

VARICOCELE.

Method is Safe and Effective.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main Street, Buffalo, N. Y.:

Dear Sirs—In reply to your inquiry concerning my condition, I am pleased to say that my recovery is complete. I was treated for false rupture at your Institution and remained at the Invalids' Hotel about ten days. Ever since that time I have continued to improve, and to-day am in full possession of my manly powers. I consider the method of treatment safe and effective, and can recommend it to any one who is suffering in a like manner. I cannot speak in too complimentary a manner of the gentlemanly and skilled surgeons and attendants in charge of the Institution, or of the radical methods of treatment in use, and wish you success in alleviating the sufferings of my fellow man.

With kind regards, I remain,

Very respectfully yours,

MILO H. MILLER.



MR. MILLER.

VARICOCELE AND RESULTANT WEAKNESSES.**Wasting of Strength and Manly Vigor—Now Strong and Well.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :

Gentlemen—I am unable to find words to express my feelings of gratefulness and gratitude that I owe to your Institution, for the able and gentlemanly treatment that I was favored with during my stay with you, by officials and attendants in their respective capacities, in every department. Nothing was left undone that could possibly be of benefit to me or add to my comfort, and to your Institution, your treatment, which in my own experience I have found to be marvelously wonderful, I feel to-day as if I owe my health, my strength, my life; for I firmly believe if it had not been for your timely and painless treatment, instead of writing to you at this time, being in the enjoyment of health and strength, I would be filling a place in an insane asylum or an invalid's grave. And it may not be more than just to your wonderful treatment to say that the Varicocele and resultant weaknesses were of about fifteen years' standing, during which time I had spent time and money with both physicians and quacks, without any result for the better, and when my life blood was daily wasting away, and the powers of manly strength and vigor were completely gone, by an act of Providence I went to your Institution as a last resort, for life or death. I was painlessly operated upon by you for my complaint, from which time I have steadily improved in health, strength, weight and vigor, until I have gone from 135 pounds, my weight when operated upon, to 174, at which I tip the balance as I write to you to-day. If the afflicted everywhere could only realize that so many lives may be spared by your wonderful treatment, none would stay away.

You are at liberty to give my testimony to the world in whatever way it may be of most benefit to you. I also enclose a photograph of myself that has been taken since the effects of your treatment have been shown. With feelings of much gratefulness, I am,

Very truly yours,

ROBERT B. WILLS.

Beaver Creek, Md.

VARICOCELE — STRICTURE.**Suffered for Years. Now as Well as Ever.**

TO ALL MANKIND:—

For years I had pain in my left testicle and other troubles. I did not know what was the matter with me. Finally, I wrote to Dr. Pierce and he sent me medicine and told me I had varicocele. His medicine helped me wonderfully, but he said an operation was the only sure cure, so I went to Dr. Pierce's Invalids' Hotel on August 24th, 1921, and they operated on me for varicocele and for a bad stricture. I am now as well as ever. Talk about skilful professional men, they sure were, I watched them do the work! One is right at home there, too, and can do just as he pleases, go and come when he wants to, only be there on time for meals. My advice to anyone who has any trouble like this is, go at once and be cured forever.

Yours truly,

O. A. NEWKIRK.



MR. O. A. NEWKIRK.

Series VII. No. 7326. Varicocele.

Mr. K., Ways Mills, Que. Record in book 7N-page 56. 7B-1975. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

Series VII. No. 7327. False Rupture.

Mr. L., Charlotte, Mich. Record in book 7N-page 60. 7B-1986. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 10 days. Result, cured.

Series VII. No. 7328. Varicocele. and Phimosis.

Mr. L., Boston, Mass. Record in book 7N-page 61. 7B-1987. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on fourth day. Wound all healed. Discharged in 14 days. Result, cured.

"I was treated for varicocele, in the Invalids' Hotel, Buffalo, N. Y. My case was one of several years' standing, and had been greatly aggravated by reason of an unsuccessful treatment by one of the most celebrated surgeons in the South; but after an absolutely painless operation, and a delightful stay of about ten days in and around Buffalo, I was able to return to my regular pastoral duties. I have been married three years; have one of the finest two-year old boys in the country, and am one of the happiest men in the world. I am confident that the worst case of varicocele in existence can be permanently cured by the methods of treatment employed at the Invalids' Hotel."

Series VII. No. 8383. Hernia and Varicocele.

Mr. S., Vancouver, B. C. Record in book 7M-page 105. 7B-1746. Local anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on fourth day. Wounds healed. Discharged in 30 days. Result, cured.

"Five months ago I entered the Invalids' Hotel and was operated upon for rupture and varicocele with splendid results."

Series VII. No. 7252. Varicocele.

Mr. E., Palouse, Wash. Record in book 7M-page 109. 7B-2036. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in eight days. Result, cured.

Series VII. No. 7253. Ruptured Veins.

Mr. M., Lagonda, Mo. Record in book 7M-page 110. 7B-1751. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

Series VII. No. 7254. Varicocele and Irritation of the Urethra.

Mr. McC., Polk, Pa. Record in book 7M-page 111. 7B-1752. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 10 days. Result, cured.

Series VII. No. 7255. Varicocele.

Mr. N., Metamora, Ills. Record in book 7M-page 112. 7B-1753. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in eight days. Result, cured.

Series VII. No. 7198. Varicocele and Phimosis.

Mr. F., Buchanan, Mich. Record in book 7L-page 74. 7B-1357. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 21 days. Result, cured.

Series VII. No. 7199. Double Varicocele.

Mr. N., South Omaha, Nebr. Record in book 7L-page 75. 7B-1358. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 17 days. Result, cured.

Series VII. No. 7293. Varicose Veins.

Mr. M., Hammonton, N. J.. Record in book 7M page 188. 7B-1857. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

"I thank you for the good the treatment has done me."

Series VII. No. 9361. Hydrocele.

Mr. T., The Plains, Va. Record in book 7N-page 3. 7B-1882. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound doing well. Discharged in eight days. Result, cured.

"I feel O. K."

Series VII. No. 7299. Varicocele.

Mr. B., Clarkston, Mich. Record in book 7N-page 4. 7B-1883. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

"My operation was very successful and I feel like a new man."

Series VII. No. 7303. Varicocele.

Mr. B., Columbus City, Ind. Record in book 7N-page 11. 7B-1897. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound all healed. Discharged in 10 days. Result, cured.

"Will always have a good word for the Institution, and thank you for your kind treatment."

Series VII. No. 7350. False Rupture.

Mr. C., Hinton, W. Va. Record in book 7N-page 89. 7B-2045. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fourth day. Wound healed. Discharged in 12 days. Result, cured.

Series VII. No. 7351. Varicocele and Phimosis.

Mr. F., Pittsburg, Pa. Record in book 7N-page 92. 7B-2052. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 13 days. Result, cured.

Series VII. No. 7352. Varicocele and Tumor.

Mr. J., Kersey, Pa. Record in book 7N-page 95. 7B-2056. Local anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on third day. Wound doing well. Discharged in 20 days. Result, cured.

Series VII. No. 7353. Double Varicocele.

Mr. S., Shade Gap, Pa. Record in book 7N-page 97. 7B-2054. Local anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 14 days. Result, cured.

Series VII. No. 7354. Varicocele and Phimosis.

Mr. W., Cleveland, Ohio. Record in book 7N-page 101. 7B-2067. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound doing well. Discharged in 14 days. Result, cured.

Series VII. No. 9365. Hydrocele.

Mr. B., Friedens, Pa. Record in book 7N-page 130. 7B-2124. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 20 days. Result, cured.

Series VII. No. 7355. Ruptured Veins.

Mr. D., Pittston, Pa. Record in book 7N-page 106. 7B-2083. Local anaesthetic. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 13 days. Result, cured.

Series VII. No. 7308. Varicocele and Phimosi.

Mr. C., Dewey, Okla. Record in book 7N-page 18. 7B-1912. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, well pleased.

Series VII. No. 7309. Varicocele.

Mr. S., Durham, N. C. Record in book 7N-page 19. 7B-1913. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

"Since leaving your place I have gained 10 lbs. and I am feeling fine."

Series VII. No. 9362. Hydrocele.

Mr. McP., Chester, N. J. Record in book 7N-page 22. 7B-1916. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 12 days. Result, cured.

Series VII. No. 7340. Ruptured Veins.

Mr. G., Wichita, Kans. Record in book 7N-page 75. 7B-2014. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 14 days. Result, cured.

"The operation was a sure success."

"Having been operated upon at the Invalids' Hotel, Buffalo, N. Y., for the cure of varicocele of the left side from which I suffered for five years, I take pleasure in informing you that it is permanently cured. The operation was entirely painless and after one week I returned home. I now feel stronger than I ever did. I cannot speak too highly of the care and attention from the Surgeons and Nurses. Everything that was provided was the best—the best of food, clean apartments and pleasant rooms. While there I met patients from all parts of the country. I desire to express my thanks to the Medical Staff for their skill and attention."

Series VII. No. 7342. Double Varicocele.

Mr. H., Kimball, W. Va. Record in book 7N-page 77. 7B-2076. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in 14 days. Result, cured.

"The varicocele, for which I was operated on at your Institution, is entirely well."

Series VII. No. 7349. Varicocele.

Mr. S., Charleston, W. Va. Record in book 7N-page 88. 7B-2044. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

"I am feeling fine and am com-

pletely healed and all swelling has disappeared. I have not lost any time at my work since I returned from Buffalo. Improving fast and feel like another person."

Series VII. No. 7368. Varicocele.

Mr. S., Bedford Sta, N. Y. Record in book 7N-page 127. 7B-2115. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 11 days. Result, cured.

Series VII. No. 7369. Varicocele and Phimosi.

Mr. N., Merryville, La. Record in book 7N-page 129. 7B-2123. Local anaesthetic. In bed one day. Little pain. No vomiting or fever. First dressing on third day. Wound all healed. Discharged in 10 days. Result, cured.

"I am very grateful to each and every one connected with your Institution."

Series VII. No. 7374. Varicose Veins.

Mr. H., Keney, N. C. Record in book 7N-page 138. 7B-2131. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound all healed. Discharged in 10 days. Result, cured.

"I think the operation is a perfect success."

HYDROCELE,

OR DROPSY OF THE SCROTUM.

This malady consists of a collection of water in the *tunica vaginalis*, or membranous sac which contains the testicles. It may affect either one or both sides. In health the sac-like covering, or investing membrane, of the testicle secretes a limpid fluid which lubricates its inner surface. When secreted in excess, it accumulates and constitutes *hydrocele*.

The tumor commences at the bottom of the scrotum and grows very gradually, while hernia, or rupture,* with which it is often confounded, progresses from above downwards and makes its appearance suddenly.

We were recently consulted by an aged gentleman, whose disease a distinguished surgeon had pronounced *double hernia*. On examining the enlargement, we found the disease to be dropsy of the scrotum, complicated with varicocele.

Causes. Injuries from blows or bruises are among the most common causes of this disease. It may also result from inflammation of the testicle or from excited action in those parts. It has been known to result from stricture of the urethra, or water-passage, and also from local irritation along that passage.

Our surgeons have perfected a method by which no incision or cutting is necessary for the cure of Hydrocele. No sufferer need be subjected to such procedure.

Our method briefly described is as follows:

Anæsthesia is obtained by the local use of a hypodermic injection of a very soluble quinine salt that gives an immunity from pain for nearly two days.

Immediately following the anæsthetic injection, a fine hollow needle connected with an air pump or aspirating syringe is introduced into the hydrocele sac and the fluid is rapidly withdrawn; a healing fluid is then injected through the same needle and this causes the walls of the sac to rapidly adhere.

In a few days the patient is able to resume his usual occupation without having undergone any risk or suffering.

* See Rupture, page 869.

HYDROCELE.

MR. EWING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am performing a duty to my fellow man in giving evidence of your excellence in the treatment of the afflicted who visit your Institution. I passed a pleasant month with you in December 1897, for treatment of hydrocele of some six years' standing. The operation performed by you was without pain. I suffered no inconvenience, the best of attention and care was given me, and I am well. In fact I did not feel that I was in a hospital for the treatment of a dread disease. I cheerfully recommend your Institution to all who need the services of skilled physicians.

Yours truly,

THOS. J. EWING.

Attorney-at-Law, also practices in the several Departments of Government at Washington, D. C. Notary in Office.

HYDROCELE.

DR. PIERCE, PRESIDENT INVALIDS' HOTEL AND SURGICAL INSTITUTE,
Buffalo, N. Y.

Dear Sir—I had double hydrocele of twenty-five years' standing. It got so bad that at times I was not able to get around. I had been to a number of so-called specialists with absolutely no benefit, so I consulted a man who had been to Dr. Pierce's Institute for treatment. He told me of the treatment and cure of his case and also of a number of others while he was there, so I decided to go to the Invalids' Hotel. The trouble was pronounced double hydrocele, the verdict was a cure. I stayed there for twenty-six days. During the treatment I was not put to bed for a single hour, experienced hardly any pain, and am positively cured of that ailment. The doctors, nurses and everyone in authority tried to make it comfortable and homelike. If I should ever again need hospital care it will be Dr. Pierce's Invalids' Hotel that I shall visit.

Sincerely yours,

HOWARD KERN.

STRANGULATED HERNIA.

DR. V. M. PIERCE, PRESIDENT SURGICAL INSTITUTE, Buffalo, N. Y.:

Dear Sir—This is to certify that I visited your Institution for an operation for strangulated hernia, a dangerous condition. During my 21 days' stay I met people from all over the United States and Canada, all like myself, well satisfied and highly pleased with your skilful treatment. I consider the board and the kind attendance, also the surgeons' skill, cannot be beat anywhere, having met men in the Hotel, many of whom had been in some of the best hospitals in this country. I will always recommend the Invalids' Hotel and Surgical Institute to all. Will answer any inquiry in regard to your place.

Yours truly,

CHAS. L. ARNOLD.



MR. ARNOLD.

DIABETES

Diabetes is not a kidney disease, but is a disease of malassimilation where the sugars and starches are not properly digested and assimilated.

If a large amount of sugar is passed thru the urine, it may, by irritating, produce inflammation of the kidneys and bladder, which means Bright's Disease and Cystitis, consequently, one case may be complicated, having more than one ailment, and another may have only a moderate degree of Diabetes.

There are two varieties, Diabetes Insipidus and Diabetes Mellitus. The diagnosis of each is a simple matter. Both are characterized by the voiding of an excessive amount of urine and an unquenchable thirst. In *Diabetes Insipidus*, patients have passed as much as fifteen or twenty pints of urine, day after day. It is barely more than colored, and the proportion of solids dissolved in it is very slight. It contains no sugar. In *Diabetes Mellitus*, while the urine is almost equally abundant, the calls for the passage similarly frequent, and the thirst as great, the fluid contains sugar varying from one to fifteen per cent. or more. It is always pale, and usually froths persistently when shaken. Its odor is normal when it is voided, but if it is placed in a fairly warm situation it soon develops one which is acetous, such as accompanies fermentation. Quite commonly a voracious appetite manifests itself, but in spite of the great quantities of food eaten the patient gradually loses flesh and strength. The mouth is dry and sticky, and the breath may have a yeasty smell. The skin may become harsh and the perspiration almost entirely suppressed. Eczema, and the itching of the anus and genital regions may be excessively annoying. The bowels act badly, and sudden changes from constipation to diarrhea, and vice versa, are not infrequent. Vertigo, headache, obtuseness, mental depression, and even melancholia, may supervene. The sufferer is specially prone to be afflicted with boils and carbuncles, and is peculiarly susceptible to serious complications, such as the development of tuberculosis, jaundice, gastro-intestinal disturbances, skin affections, heart and nervous involvements and kidney disease.

The Treatment is dietetic, hygienic and medicinal. The food should be wholesome and varied, but articles containing starch and sugar must be reduced to a minimum. As a suggestion, a list of some of the things which are permissible, and others which are not, is appended. Animal food — beefsteak, game, poultry, fish, eggs, cheese, cream, butter; vegetables — spinach, dandelion-greens, turnip-tops, water-cress, lettuce, celery and radishes. Drinks — tea, coffee, claret, water, brandy and water, beef-tea, mutton-broth, or water acidulated with tartaric, nitric, citric, muriatic or phosphoric acid. The forbid-

den articles are oysters, crabs, lobsters, liver, sugar, wheat, rye, corn or oat-meal cakes, rice, potatoes, carrots, beets, peas, beans, pastry, puddings, sweetened custards, pears, peaches, strawberries, etc., also beer, sweet wines, port, rum, gin and cider.

Under the heading "hygienic" is included, besides living amid the best sanitary conditions, a life in which fresh air and sunshine is enjoyed freely and continuously, a moderate amount of physical exercise and the patient to be relieved of mental strain, worry, and long hours of employment.

Urinary Examination. In this disease, as in Bright's, the examination of urine at intervals is of the utmost importance, not only to ascertain the percentage of sugar, but to determine whether certain other conditions prevail which may demand prompt attention.

Medicinal Treatment. Our staff of physicians, enjoying unusual facilities for obtaining reliable urinary analysis, and observing the effects of their remedies, have been enabled to treat both forms of diabetes. Many persons whom they have never seen personally have been sent medicine especially prepared for them in response to a history of the case obtained from replies to our question blanks and the examination of samples of urine forwarded to us. The same may also be said of many others, who have remained at the Invalids' Hotel for treatment.

It is advisable for diabetic patients who are able to do so to come here for a complete examination and remain under treatment thirty days or more, provided they are not bed-ridden. We do not accept bed-ridden cases of any kind, nor those who require constant attention, unless the patient is willing to pay additional for private nurse and nurse's board.

Diabetes being a disease which is never self-limited, that is, which terminates or disappears spontaneously, too much stress cannot be laid upon the necessity for its early and efficient treatment.

No honest physician will guarantee a cure of Diabetes, or any other disease, as no two cases are alike. Nevertheless, in Diabetes treatment is advisable, life is prolonged and the patient made more comfortable. The greatest discovery in the treatment of Diabetes is Insulin, but is not necessary in all cases. It does not effect a cure but has saved and prolonged hundreds of lives, especially the young. People who develop Diabetes late in life have a better outlook than young adults or children. Particularly in the young, Insulin is of great benefit given hypodermically by a competent physician or nurse under his direction in suitable doses. We use Insulin at the Invalids' Hotel and other remedies indicated which have proved, in years of experience, to be helpful.

We have a fully equipped Sanitarium, Turkish Baths, electricity in its various forms and everything necessary for the comfort and welfare of the patient.

After spending a month at the Invalids' Hotel, special remedies prepared in our laboratory may be sent to each patient for use at home, with diet list, full directions and advice. We do not, of course, prescribe the same remedies for all cases of Diabetes, but treat each individual according to indications.

Please address the Medical Faculty, Invalids' Hotel; or plain envelope, Dr. Pierce, 665 Main Street, Buffalo, N. Y.

THE URINARY ORGANS:

THEIR

ANATOMY, PHYSIOLOGY AND PATHOLOGY.

A short study of Figure 1, which shows the relative positions of the kidneys, ureters, bladder and some of the adjacent structures, will assist one materially to understand the brief anatomical description of the urinary organs which follows. It will also make more easy of comprehension what is said subsequently of the various diseases mentioned.

The kidneys, the ureters, the bladder and the urethra, are, taken as a whole, termed the Urinary System. Its function is purely that of removing from the body certain waste materials which, if allowed to remain, would cause serious illness and eventually death. The prostate gland, while primarily a sexual organ, may, under certain conditions—for example, when enlarged—be considered as belonging to the urinary group.

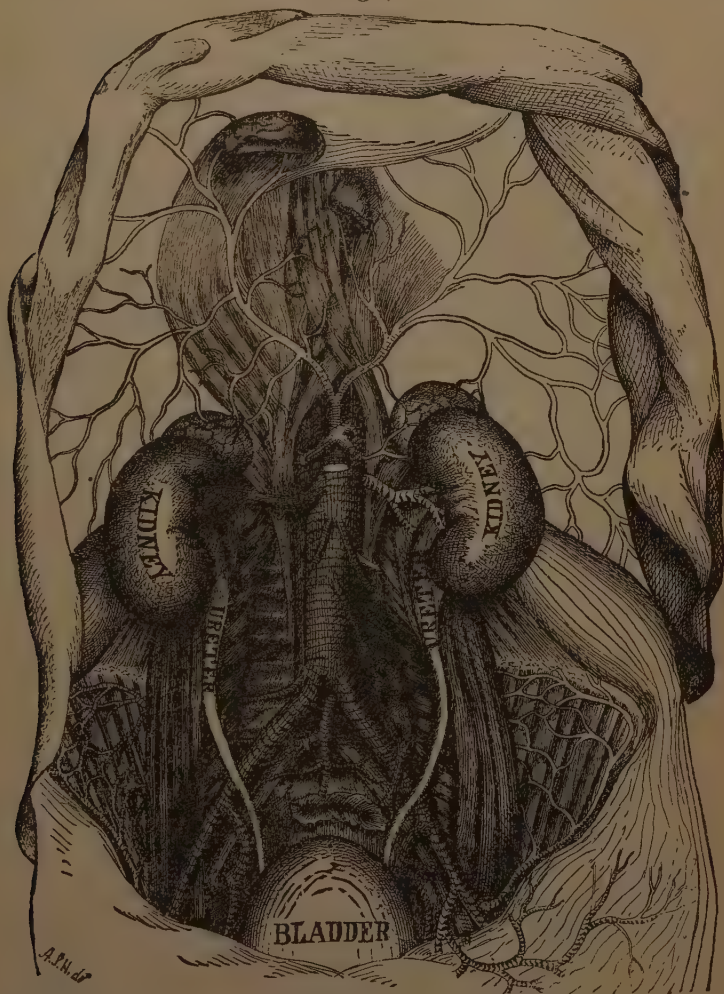
The kidneys (there are two of them), are located in the posterior part of the abdominal cavity, one on either side of the spinal column (the back bone), their lower halves extending below the edge of the ribs in the back. Their supply of blood is very abundant, and from it is constantly being abstracted when a person is in good health, water, organic and inorganic salts, and other effete substances of which the urine is composed. As fast as the urine is gathered, it is carried off by the ureters. These are two pipe-like ducts from fourteen to sixteen inches long, of the diameter of a goose quill except at their beginnings which are larger, and funnel shaped. They extend downward and enter the base of the bladder; into this organ they carry the urine.

The bladder is a sac, or reservoir, into which the ureters normally discharge a few drops of urine at very short intervals, and in which the fluid is stored until a convenient opportunity for its expulsion. It has a comparatively great expansive and contractile range. It is situated in the lower part of the abdomen just back of the pubic bones. When it is empty it rests as a flattened, collapsed bag with its inner surfaces together; when distended it assumes a somewhat globular shape. In an adult it holds comfortably from one-half to one pint, and there should be no specially urgent call to urinate before the lesser amount has accumulated. The limit of its capacity, however, is very much greater, depending on the age, health and habits of the individual.

The urethra is a channel through which the urine flows when it leaves the bladder. In women the urethra is about one and one-half inches in

length, and runs along and in the anterior wall of the vagina. In man its length averages six and one-half inches. Extending outward through the penis to its external end. The inner one and one-quarter inches of

Fig. 1.



its extent passes through a deep furrow in the upper portion of the prostate gland, and is termed the prostatic urethra; the next three-quarters of an inch is called the membranous part; and the third, the balance extending to the external opening, or meatus, through the penis

proper, is known as the spongy urethra. When not distended by a stream of passing urine or an instrument, the walls of the urethra like those of the bladder lie one against the other, making a closed tube. Its surface is composed of mucous membrane. Its muscular coat varies a trifle in thickness in its different parts as does the diameter of its bore. The canal in the prostatic portion is kept firmly closed by a group of muscles known as the urethral sphincter which prevents the involuntary escape of the urine. In this part also are the orifices of the ejaculatory ducts,—pathways through which the semen is forced into the urethra.

The prostate gland when it has attained its normal growth is as large as a good sized horse-chestnut. In childhood it is very small and undeveloped; but at puberty it begins to increase, reaching its full size at from the 20th to the 25th year of life. It is so situated that it encircles the neck of the bladder and a portion of the urethra.

The Urine. In health the urine freshly voided is a clear, transparent, limped, sparkling, light amber-colored fluid of an acid (sour) reaction, with an aromatic odor which is not unpleasant. The quantity excreted in each twenty-four hours, under normal conditions, averages fifty ounces, that is, a trifle over three pints. Its composition is very complex; it consists principally of water in which is dissolved quite a large number of different substances, some of which are filtered out of the blood by the kidneys and others that are elaborated by these organs from the body waste they remove from that fluid. Virtually all diseased conditions, either of the body generally or any particular portion of the urinary system, make changes in the constituents of the urine; some of those which are present in health disappearing partly or altogether, others being increased, and others never before there forming part of it.

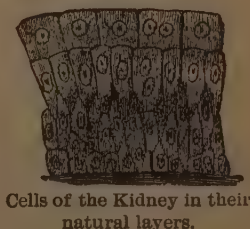
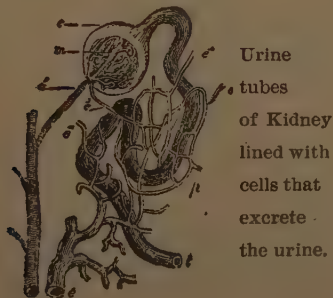
While many diseases cause the appearance of the urine secreted to vary so greatly from the normal that a mere glance is sufficient to establish the fact that something is radically wrong, in some of the most serious ailments—such as certain forms of Bright's disease and diabetes, for example—there is absolutely nothing one can see upon looking at it which would lead one to suspect the gravity of the situation, the albumin and sugar which characterize them being in perfect solution, and hence invisible. A chemical analysis, however, at once discloses the presence of these substances and establishes the character of the disease beyond the peradventure of a doubt. So also may pus-cells, blood-cells, hyaline casts, leucocytes, bacteria, organic and inorganic salt crystals, and various epithelia float about in the urine, but owing to their minute size, transparency, or small quantity, be unobservable to the naked eye, while the microscopic examination of the excretion shows them clearly and to a trained observer indicates the character of the disturbance which is menacing health. It is important, therefore, that the urine should be examined in all cases of illness, and not only when it is unusually

scant or abundant, specially high or low colored, smoky or bloody, particularly or offensively odorous, opalescent, milky or opaque, or when it deposits a white or colored sediment, or becomes cloudy on standing.

The voiding of the urine should never be painful; neither should it occur involuntarily, nor at frequent intervals. The flow should start easily and promptly, and in a full, well-rounded, solid stream, and not without force, very slowly or in a hesitating manner, or with twisting, forking or spattering. Neither should a few drops, more or less, ooze or dribble out of the penis and wet the clothing a little while after the act of urination is apparently finished. As the urine is secreted with less rapidity during the night than in any other part of the twenty-four hours, the person who has emptied the bladder just before retiring should not be obliged to rise to repeat the performance before getting up at the usual morning hour.

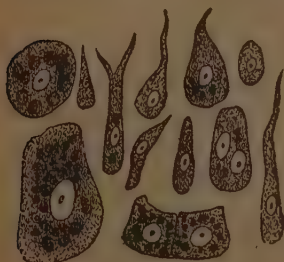
BRIGHT'S DISEASE.

In non-technical language, this malady is an inflammation which extends throughout and involves virtually the whole of the substance of the kidney. It is a most insidious disease and may have existed for months and have gone far on the way to incurability before it is discovered. The conditions in the kidneys themselves are much the same as those prevailing in an acute case, but which progress so slowly that even the most vivid imagination cannot ascribe acute characteristics to them.



It may develop from an acute attack, or it may be produced by any of the diseases, agents or conditions which cause an acute

attack, or the malady may assume a chronic form from the beginning. Common causes are sudden suppression of the perspiration, improper action of the skin, living in damp, squalid quarters, severe and repeated colds, faulty nutrition, nervous exhaustion, overwork, pregnancy and any of the various bacterial infections. But of all the



Kidney cells separated.

things to which it is attributable, intemperance is the chief. By this is meant excesses of any kind, either in labor, eating, alcohol or otherwise.

Local infections of the urinary canal result in an alarming number of cases, as do all the constitutional diseases.

The following diet may be used :

Soups.—Milk soup with rice, tapioca or vermicelli.

Fish.—Fresh fish, as white fish ; raw oysters (avoid eyes) ; clams.

Meat.—(Very sparingly). Game and chicken, white meat ; bacon.

Farinaceous.—Toast or stale bread, oatmeal, sago, rice, arrow-root, hominy, cornmeal, rolled oats.

Vegetables.—Green in general, in plenty, well boiled ; spinach, turnip-tops, celery, rhubarb, lettuce, onions.

Dessert.—Fresh fruits stewed or raw, prunes, jellies.

Beverages.—Pure water in plenty, cool between meals, hot half an hour before meals. Seltzer water. Mineral waters, as Bethesda, Lithia, Poland, Vichy, Deeprock ; milk in moderation.

Avoid.—Rich soups and meat broths ; meat in general ; peas, beans, potatoes, cheese ; malt and spirituous liquors ; new bread, ices, sweets, coffee, tobacco.

GENERAL RULES.

Avoid exposure and muscular fatigue. Clothing should be warm ; warm flannel next to the skin summer and winter. Encourage the action of the skin, care being taken not to expose to draughts. Warm baths ; Turkish Baths will be of benefit. Tepid sponge baths should be taken each morning. Avoid heavy lifting and straining.

In the treatment of kidney diseases our specialists at the Invalids' Hotel have been very successful both in the case of those at a distance to whom we have sent medicines and those who have been inmates of the Invalids' Hotel under our immediate supervision. Our unusually well-equipped laboratory, where successive analyses demonstrate practically every significant change in the urine as soon as it occurs, and the great experience of our physicians, gained by caring for hundreds of cases annually, enable them to prescribe medicines especially adapted to the requirements of each case. The advantages we possess, and which are enjoyed by but few doctors, have resulted in our perfecting methods of treatment and elaborating remedies which have proved of great value in these diseases. That we have not neglected our opportunities is shown by the fact that we have restored to health a very large number of persons who were pronounced incurable by their home physicians, and others who were so bloated by dropsical effusion that they weighed from twenty-five to fifty pounds more than usual. At the Invalids' Hotel, where we employ Turkish and hot-air baths and other means, the results have been very gratifying. In those cases in which so large a portion of the structure of the kidneys was destroyed that a cure was impossible, we have prolonged life and made the last days comfortable.

Please send request for our special questions for kidney disease.

Special advice may be had by writing to Dr. Pierce's Invalids' Hotel, 665 Main Street, Buffalo, N. Y.

PYELITIS, PYONEPHRITIS, PYELONEPHRITIS

PYELITIS AND PYONEPHRITIS ARE INFLAMMATIONS OF THE KIDNEY
WITH THE FORMATION OF PUS

Pyelitis is an inflammation of the pelvis of the kidney; Pyonephritis, inflammation of the kidney; Pyelonephritis, inflammation of the kidney and its pelvis.

These are affections of different parts of the kidneys, but may be relieved by the same treatment. All are due to the pus organisms or bacteria. More than a dozen different pus-producing bacteria will cause these diseases but that coming from the colon is the most common. The kidney most generally becomes infected from the blood stream, the organisms producing it being in the blood, and they are strained out by the kidney cells, producing pus.

Pyelitis is sometimes the result of an extension of pus-producing organisms upwards from the bladder thru the ureter. Sometimes direct

transmission by way of the lymphatics from the colon takes place. Blood infection usually produces disease of both kidneys. Constipation and colon inflammation are the common cause from pressure on the tube that leads from the kidneys, plus the poisonous organism. This usually leads to an infection of the right kidney.

The general symptoms are those of fever and poisoning from the products of infection. The local symptoms are those of pain and disturbance of the urinary organs; sometimes it is slight, as a stiffness in the lumbar region, often symptoms like lumbago; sometimes the pain extends down the thighs and into the perineum.

Treatment varies with the severity of the attacks. If severe, the patient is put to bed in a large, well-ventilated room, if possible, near a bath room. Rest economizes the patient's strength and helps the repair. All causes for worry, anxiety and useless conversation should be done away with. A daily sponge bath (more frequent sponges if feverish), attention to the bowels, fresh air in the room, or removal of the bed to the veranda are important. After being free from fever the patient is better out of bed.

Diet bland and unirritating, but sufficient. Milk has been shown and approved as the best food, as a basis for a diet. In addition—toast, cereals, sugar and cream, butter; buttermilk is a pleasant change.

Drinks, such as laxative waters, lemonade, weak tea or coffee, sweetened to taste. Alcohol should be rigidly avoided. Diet simple, three meals sufficient; one hearty meal a day, and two moderate ones.

For the relief of pain, hot applications, occasionally the application of an ice-bag. For the pain, if severe, a small amount of phenacetine or aspirin. The bowels must be kept loose. The diet should contain enough coarse material. Fruits should be eaten, and mild cathartics, as Comp. Licorice Powder or Dr. Pierce's Pellets, used, and, associate with them, injections of hot water, into the bowels, morning and night.

Dr. Pierce's Anuric tablets contain certain antiseptic materials that correct and tend to relieve the condition of the cells of the kidneys and to overcome the formation of the pus. We recommend their use in doses of two or three, three times a day, if the condition of the bowels will permit. Keep the urine free, unirritating and antiseptic. Severe abscess of the kidneys calls for surgical intervention, if other means do not overcome inflammation, but soothing treatment should be tried first.

CHRONIC CYSTITIS

This malady, also called chronic catarrh of the bladder, which is one of the most wearing diseases known and only secondary to stone in the bladder in painfulness, is primarily an inflammation of the mucous lining of that organ; but in advanced cases the muscular structure beneath it is often seriously involved. It is always secondary to an acute attack which may have resulted from one of many causes, as for example, a severe cold, exposure to wet and dampness, taking very irritating diuretic medicines, using strong injections, alcoholic intemperance, injury to the bladder, the introduction of foreign bodies within it, habitual long retention of the urine, masturbation and excessive sexual indulgence; or may have developed in the course of other diseases, such as diphtheria,

scarlet fever, typhoid, rheumatism, gout, Bright's disease and its complications, and diabetes; or may owe its origin to gonorrhoea, gleet, stricture of the urethra, gravel, stone, or enlarged prostate gland; and, in women, may be caused by pregnancy, a displaced uterus or leucorrhoea. It is exceedingly apt to become acute on the slightest provocation, when the pain and discomfort it causes cannot be adequately described.

Symptoms. While the symptoms vary widely in the degree of their severity at different times and in different cases, they are exhausting in the extreme. There is an almost constant desire to pass water; ordinarily but a few drops of urine accumulate in the bladder before it must be voided. What little is expelled at each call generally scalds and smarts and rarely stills the urging that more shall flow. This may be so unrelenting that the sufferer has no rest during the day and can sleep only in short intervals at night. There is a sense of weight and pressure in the lower part of the abdomen, a dull pain just above the base of the penis, and a burning in the rectum,—all of which seldom cease. The small of the back aches severely and soreness in the region of the kidneys is almost unrelenting. At night painful erections occur which are accompanied by emissions and later, are succeeded by complete loss of sexual desire and absolute impotency. As the disease progresses the sufferer experiences successive and profound chills, followed by high fever; he becomes nervous, emaciated, wan and hollow-eyed, and shows by his appearance and actions that he is very ill. He loses appetite, is constipated, and every movement of the bowels is an agony. He grows melancholic, despondent and weary of life, as well as more or less irritable, and not infrequently degenerates into a pain-distraught, nervous wreck. All of his symptoms are aggravated if he is on his feet to any extent, or if he has to do anything requiring activity or muscular effort.

The Urine. The urine contains pus, an excess of mucus, and generally blood with sometimes shreds of tissue. In appearance it is opalescent, milky or altogether opaque, and deposits a heavy sediment looking like soft soap. If it is allowed to stand for a few moments in some container, like a bottle, the layers into which it separates can be readily distinguished. The clear portion is generally of the ordinary urinous hue; but in those instances in which the amount of blood present is appreciable the color of the entire quantity may be simply more deeply tinted than usual, of a rusty brown, or even distinctly red. Its reaction is almost uniformly alkaline, and in the more serious cases it may have a strong odor of ammonia, indicating that an advanced stage of decomposition has been reached. On endeavoring to pour it from a vessel in which it has stood for an hour or two it is generally found to beropy and more or less adherent.

Treatment. The treatment of cystitis varies in accordance with its

origin. In those instances in which it has been caused by some acute disease, the latter subsiding and the former remaining, it can usually be cured at home by the medicines we prepare for and send to those who answer our question lists and forward to us a sample of urine for analysis. We are also successful in a majority of the cases dependent upon some one of the chronic maladies, such as rheumatism, Bright's and diabetes. A small proportion of cases however need care under our direct supervision, as do those owing their existence to the presence of a stricture of the urethra, enlarged prostate, or stone in the bladder. The stone must be removed before permanent success can be achieved. Personal care and attention is also required in cases in which from their extreme chronicity ulceration through the mucous into the muscular tissue of the bladder has occurred. The causes of cystitis being many and varied, we urge those who are in position to do so to visit us for a personal consultation and examination, even if they must make some sacrifice for the purpose. In numberless instances such a course has disclosed conditions which have been suspected by neither patient nor family physician, and has enabled us to put an end promptly to long suffering.

As in all other diseases of the urinary organs, the chemical analysis and the microscopical examination of the urine is an important factor in determining the form and method of treatment to be adopted in any given case of cystitis, as it frequently shows that there are certain involvements which the symptoms as given by the patient do not indicate. Hence these should never be neglected or delegated to those who are not known absolutely to be qualified for the work in every possible way.

Because of their long and exceptional experience our physicians arrive at correct conclusions concerning the existing conditions with unusual rapidity and certainty, even in the most obscure cases, and possess in a high degree the technical skill which is necessary to the successful treatment of the most complicated forms of cystitis.

GRAVEL.

The naturally acid urine has dissolved in it a fairly constant percentage of a variety of different salts. The most important are the urates; phosphates and the oxalates. In certain conditions of ill-health they are so much in excess of what is normal that they cannot be held in solution, and the greater portion is precipitated in the bladder in the form of small crystals. The same thing may occur when the urine becomes alkaline, or from a number of other causes, even though the proportion of these substances is not abnormal. When these crystals coalesce in little masses, as they usually do, and form many very small, solid bodies ranging in size from that of a grain of sand to that of a small pea, we have what is commonly called gravel. The longer they remain in the bladder the larger they become, by the addition of other crystals

which are deposited upon them by the supersaturated urine. Sometimes the formation of these little granules takes place in the pelvis of the kidneys; and if they are small enough they are carried off through the ureters into the bladder. From there they usually pass out with the urine. Their escape from this organ is not infrequently detected by the sound made when they strike the side of the vessel into which they have been voided, or by the peculiar scratching, prickling or rasping sensation they produce as they are forced through the urethra. They are variously colored; those composed of the urates being a brick red, dull red, or reddish yellow; of the phosphates, white or tinted light yellow; and the oxalates of different shades of gray.

Symptoms. There is usually an increase in the frequency and intensity of the desire to urinate, and there may be more or less constant pain which radiates up into the small of the back, the region of the kidneys, into the rectum and testicles, along the course of the urethra to the end of the penis. Quite commonly there is a sense of soreness or rawness at the base of the bladder. A gritty, sandy, colored sediment generally settles and adheres to the bottom of any receptacle into which the urine is voided; and there may be found in it a quantity of very small, sharp-edged crystals, with a few minute but distinctly formed stones. Although the urine may be clear when it is fresh, it clouds up unusually rapidly and heavily when it is exposed to the air because of the presence of an excess of mucus. Cystitis not infrequently develops and then there may be all the symptoms of that malady. In case the concretions form in the kidneys they may, when excreted, if they are so large that they pass through the inelastic ureters with difficulty, cause renal colic; that prostrates the patient with the most excruciating pains which are felt in every organ of the genito-urinary system and stops only when the stone has traversed the length of the ureter and has escaped into the bladder. At such times, bloody urine is the rule, and Bright's disease may develop and add its quota to the gravity of the situation.

The examination of the urine, its sediment, and the gravel, chemically and microscopically, is a paramount necessity, as it indicates more accurately than any other measure the line of treatment to be followed.

The Causes. Malnutrition, imperfect assimilation, faulty excretion, gastric and intestinal indigestion, slow or imperfect recovery from acute infectious maladies, Bright's disease, gout, rheumatism, uric acid diathesis, cystitis, enlarged prostate, urethral stricture, locomotor ataxia, some forms of paralysis, holding the urine for an undue length of time, and the long continued drinking of hard water containing a large proportion of lime, are some of the principal causes of gravel.

Treatment. The treatment of gravel should be along such lines as are made self-evident by a careful consideration of the patient's history and the work of the chemist with his microscope and analytical reagents

upon samples of urine. In many instances the replies to our question blanks, and the analysis of a quantity of urine sent to us, has shown us most conclusively the root of the trouble and enabled us to quickly cure the sufferer without a personal interview, after other physicians have failed; the appropriate medicines being shipped by mail or express. In those cases in which stricture of the urethra, enlarged prostate, and the graver forms of Bright's disease or cystitis, are present, we must have the patient under our direct care at the Invalids' Hotel where our physicians can employ such local treatments as are prerequisite to a return to perfect health.

VESICAL CALCULI,

STONE IN THE BLADDER REMOVED WITHOUT THE USE OF THE
KNIFE, BY THE CRUSHING PROCESS.

The difference between stone in the bladder and gravel is purely arbitrary, and is one of degree only. As long as the little solid, stone-like bodies described under the latter heading remain so small that they can pass through the urethra with the stream of urine, they are known as gravel. But when they attain dimensions which prevent their escape from the bladder in this manner, they rise to the dignity of being called stone, or vesical calculi. They were, in reality, such from the start; but custom has sanctioned this nomenclature—based on size. A stone once having formed tends to increase in bulk constantly. The mere fact that there is a solid body in the bladder causes a crystallization upon it, even if there is not an excess of the various salts which would otherwise have remained in solution. The rapidity with which it enlarges depends upon several factors, the principal ones being the material of which it is composed, the character and concentration of the urine, and the health of the bladder. Ordinarily those consisting of phosphates enlarge comparatively quickly, those of the oxalates more slowly, and those of the urates very gradually. It is rare that one is made up of any single substance. While a given salt may form most of its mass, there are generally layers of several different kinds, one covering another. In a healthy bladder with fluid contents which are normal in composition the increase of a stone is exceedingly slow; but it is more rapid if they are not normal, if the bladder walls are congested, if urine is retained for a long period voluntarily, or if there is a stricture of the urethra, or an enlarged prostate. If the urine becomes alkaline the concretion increases more rapidly as occurs when cystitis develops. Although a stone may be of any shape, the majority approach that of an egg in general contour. Its surfaces may be rough and knobby, a characteristic of the oxalates; even but gritty, significant of the phosphates; or smooth and polished, indicative of the urates. In some instances two or even more are present at the same time. This is the exception, however, the

rule being that one is found alone. That which weighs in the neighborhood of an ounce, and is as big as a good sized hickory-nut, is regarded as large. Most of them are much smaller, although there are authentic records of some which exceeded this weight and measurement many times.

The Causes. The causes are those which are responsible for gravel, particularly if there is a catarrhal condition of the bladder, with the production of much mucus at the same time. To them may be added any foreign body which gains access to the bladder and remains there, forming a nucleus upon which the deposits of salts may crystallize.

The Symptoms. The two symptoms which are almost diagnostic of stone in the bladder are constant but irregular pain in the bladder and the eventual occurrence of a purulent cystitis. The former varies in its intensity from mere discomfort to an agony which is second to none which a human being can endure. Its acuteness depends upon the character of the stone, the condition of the bladder and its sensitiveness. In those cases in which the stone is smooth there is but little suffering; but in those in which it is rough the pain is intense. It is increased when the victim moves about and particularly if he is subject to jolting, such as is inevitable when he rides horseback, or in a springless vehicle, runs, etc. At any time during the act of urination the stream may be shut off suddenly simultaneously with the occurrence of a sudden exacerbation of excruciating pain which darts up into the back and kidneys, into the rectum, draws the testicles closely and firmly up to the body, and shoots along the urethra to the end of the penis. The same suffering may develop when all the urine has been passed. The agony may be lessened if one lies down upon his back, or it may continue until a further supply of urine has accumulated. The reason for the occurrence of these symptoms is the grasping of the stone by the lower part of the bladder which forces it against the inner end of the urethra and the trigone. The latter is the most sensitive portion of the bladder. It is a triangular space which would be bounded by three lines, if they were drawn respectively between the orifices of the two ureters and from them to the urethral opening. As soon as sufficient urine has gathered the bladder is distended, the stone released from its position rolls away, and the suffering is lessened. A stone in the bladder, being a foreign body, that is, one which is not there naturally, irritates the mucous surfaces with which it is in intimate contact and causes them to become congested and inflamed. The rougher it is, the earlier these abnormal conditions develop. Having once been established, infection of the urine, which may occur in many ways, takes place almost inevitably, and then the pangs and grave dangers of a suppurative cystitis are added to those which preceded it. So promptly and so universally does this happen, that many persons who have stone are not aware of the fact, but attribute their sufferings to a cystitis which masks the real cause of their

illness. Indeed most individuals who nominally die of stone in the bladder do so because of the cystitis accompanying it, and not from the mere presence of its exciting cause.

The condition of the urine varies mainly in accordance with the existence or non-existence of a concurrent cystitis. But even if there is none, the excretion, while being reasonably clear, may contain little flocculi and floating shreds of tissue, cloud up heavily as soon as cool, and deposit a surprising quantity of sediment. At times it may be discolored with blood. If there is a cystitis the urine has all the bad features mentioned as appearing in that disease, but intensified, and a chemical and microscopical examination, as in other diseases of the urinary organs, is an imperative preliminary to successful treatment.

Treatment. Recent delvings into the history of medicine in the remote past show that Lithotomy, or taking a stone out of the bladder by a cutting operation, was practised as long ago as the time when the operators' knives were made of rudely shaped flint or similar material. Like surgical procedures have been continued ever since, with the character of the instruments and the details of the technique improving steadily until the perfection of twentieth century surgery has been reached. But notwithstanding these advantages, the percentage of mortality, which was always very high when cruder methods prevailed, is still so at the present time in every series of cutting operations for stone. Stimulated by the many fatalities that occurred even when the most expert surgeons operated with the knife in stone cases, and particularly by the death of many world-famed men, among whom may be mentioned the Emperor Louis Napoleon, a French physician devised the procedure of crushing the stone in the bladder and washing out the debris with water. His instruments, though ingenious, were not well adapted to meet all the requirements made upon them, and though they were used successfully in some cases by a few especially skilled operators his method was seldom followed by his contemporaries, owing to its difficulty and the strong probability of failure at the critical moment. A number of years later, Bigelow in America and Sir Henry Thompson in England took up the matter about the same time, and during a long series of crushings made one improvement after another upon the original instruments until they presented the profession with those which served their purpose admirably for their age, and were used with a much greater measure of success by the vast majority of surgeons. Convinced that the removal of stone by crushing was the proper way, but not satisfied, however, with anything short of perfection, our physicians at the Invalids' Hotel and Surgical Institute have devoted years of study to this disease and have perfected methods of treatment and have become so skilful that they have relieved hundreds of patients of stone without a fatality and by a single operation in each case.

A moment's reflection will convince those afflicted with stone in the bladder of the great advantages of our method over the cutting operation which is admittedly dangerous, requires the infliction of a deep wound, entails the loss of much blood, and generally produces severe shock; and also of its superiority over that variety of crushing process which necessitates submitting to several successive treatments. Our patients seldom lose any blood, a few drops at the most, are confined to the bed but a few days, and never have even an abrasion of the skin to show that anything unusual has been done.

HYPERTROPHY

CHRONIC ENLARGEMENT OF THE PROSTATE GLAND REDUCED WITHOUT THE USE OF THE KNIFE.

The chronic enlargement of the prostate gland is a disease of the latter part of middle life or old age. Its first manifestations rarely make themselves apparent until after a man is over fifty years old, though there are occasional examples of it in those much younger, but these are to be regarded as exceptions. It is estimated that two out of every three men who have reached sixty have more or less enlargement of the prostate, and that one out of every eight or nine have it of sufficient size and character to cause serious trouble.

The gravity of the situation depends not so much on the mere fact of the enlargement of the gland as upon whether or not it interferes with free urination. If the gland increases laterally or posteriorly it may attain many times its original dimensions without affecting the flow of the urine; but if it grows in the direction which makes it press upon the bore of the urethra, a very slight augmentation may make serious trouble.

Causes. Gonorrhœa, gleet, stricture of the urethra, cystitis, stone in the bladder, sexual over-indulgence, masturbation, excessive horseback or bicycle riding, alcoholic intemperance, a sedentary life, and making it a practice of holding the urine for long periods may cause the prostate to enlarge. There is no question but that the disease often develops in those who have led a blameless and model life in every respect and have never previously had any affection of the urinary organs. We deem it pertinent to make this assertion so that every one who suffers from prostatic trouble may understand, as many do not, that even the best of men may be so afflicted; and that they will not hesitate in coming to us as

they should at the earliest moment, from fear that their morals or habits will be called in question.

Symptoms. Attention is first called to some obstruction to the flow of the urine; the stream is not as large as usual, it runs with less force than it should, and there is generally some dribbling for a few moments after the apparent conclusion of the voiding. As time passes these symptoms become more pronounced; it requires an effort to start, the calls to urinate become more urgent, increase in frequency and are attended with great pain. The sufferer may be roused from his sleep several times during each night, but never obtains the relief he should. There is an almost constant straining, yet the urine is passed more and more incompletely and unsatisfactorily. In proportion to the severity of the straining there is danger of its causing rupture, varicocele, prolapse of the rectum, or extensive pile formations. Eventually a sudden and complete retention of the urine occurs perhaps as the result of a cold, wetting the feet, exposure, or some indiscretion in eating, or after drinking whisky, wine or beer, and a catheter must be used to prevent rupture of the bladder and fatal collapse. In some instances the retention is not absolute and the urine oozes day and night, and soils the clothing and bedding unless protected by a rubber apparatus. As a rule, after each of the first few attacks of retention the urinary function is re-established, in a measure at least, but finally one occurs in which the bladder can never be emptied without the aid of the catheter. With the ushering in of this state of affairs begins what is called "the catheter life" of the individual. Although he may pass some months or years in comparative comfort and sense of security, he is in constant jeopardy, as his disease will progress until his catheter becomes useless; or, if he does not exercise scrupulous care, he may carry infection with it into his bladder and set up a cystitis, for which it is ripe. From the moment of the earliest obstruction all through the progress of the enlargement the conditions are favorable to stone formation. The plight of the man who has hypertrophy of the prostate with complete retention, a concurrent cystitis, and a stone in the bladder, is pitiable in the extreme. His sufferings cannot be imagined; they must be endured to be appreciated, and his life hangs in the balance. Soon after the prostate has enlarged somewhat it is not at all unusual for the sexual desire and capacity to be increased markedly, and for annoying and persistent erections to occur. These, however, are temporary exaltations of function and if the disease is allowed to go unchecked, end inevitably in complete impotency. Burning in the rectum and a sensation of a foreign body having been introduced within it are common.

The Urine. In cases in which there is no cystitis or stone the urine is usually clear and normal in color; but sometimes it contains little floating, comma-shaped plugs of inflammatory origin, and it nearly always deposits clouds of mucus on cooling. If either cystitis or stone

complicates the situation the urine takes on the characteristics of those maladies. As in all other urinary ailments, the examination of the urine by a properly qualified individual should not be omitted.

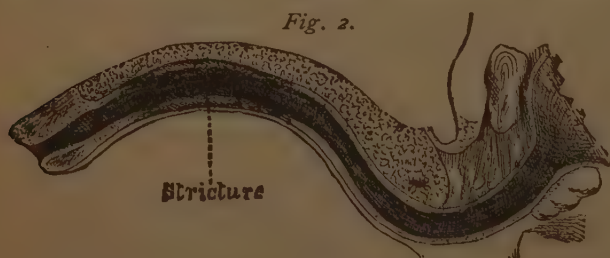
Treatment. We quote from an address before a New York State Medical Society, by our Specialist, who is an expert in the treatment of prostatic hypertrophy, as follows: "The operation of the removal of an enlarged prostate by the knife is still within the category of operations that, to the lay mind, are so serious and uncomfortable as to lead the vast majority of sufferers to submit to them only as a last resort. The method of treatment I have used for the past five years, infrequently at first, but more often as the beneficial effects were made manifest, has produced the happiest results. Out of 287 cases I have had but one death, and in that case the enlargement was due to cancerous involvement. I regard it as absolutely safe when carefully carried out, and recommend it highly as the most favorable in any case of prostatic disease. I use local anæsthesia, which is as satisfactory as a general anæsthetic in preventing all pain, and patients do much better after it."

Our methods consist of the application of the thermal effects of electricity, directly to the prostate through the urethra. This shrinks it and restores the calibre of the urethra, so that the urine may be voided in the natural manner. Our procedures take but a few moments, and the patient who is never unconscious at any time is rarely obliged to stay in bed more than a day or two afterwards. The importance of the early treatment of prostatic hypertrophy cannot be emphasized too greatly. Every man who experiences any of the symptoms which may possibly indicate the beginning of the trouble should be examined at once by a competent physician, and if it is found should have it attended to immediately. By doing this, he cannot only be restored to health promptly, but will save himself much severe suffering. Except in very few instances in which a sudden retention of the urine is the first indication of an enlarged prostate, the time which elapses from the appearance of the earliest and usually slight symptoms to those which are alarming is ordinarily a long one; it is quite common for it to extend over two or three years, frequently it covers five or six, and not rarely eight or ten. In spite of its slow development the disease never stands still, never retrogrades and never subsides without good care. Therefore an almost imperceptible advance in the gravity of one's experiences is not an indication that serious trouble will not ensue finally. He who allows matters to go so far that retention occurs, "catheter life" has to be entered upon, or cystitis or stone develops, courts disaster and puts himself in a position from which he may be rescued with difficulty. Having had an unrivaled experience in the successful treatment of the disease in all of its different stages, we offer our services to those needing the special attention required in this trouble, with confidence that even in the most complicated cases the results will be satisfactory.

STRICTURE OF THE URETHRA.

A stricture may develop anywhere in the urethra. It consists, in the majority of cases, of scar tissue encircling the bore of the canal more or less completely. Because of the peculiarities inherent in scar tissue and of the accident of its location in the soft yielding structures of the penis it tends to contract gradually. It may range in degree from a mere narrowing of the passage, and which would not be noticed save by a careful urethral examination, to so complete a closure that the urine cannot flow past it. There may be one or many.

Causes. It may be caused by anything which keeps any portion of the urethral walls inflamed or congested; to an accidental wound, to rough or careless instrumentation of the urethra, the difficult passage



A Single Stricture of the Urethra.

through it of rough bits of gravel, the employment of harsh and irritating injections, to sexual excesses or masturbation, but the most prolific causes are gonorrhœa, (particularly if long and repeated attacks are experienced) and gleet.

A stricture rarely forms rapidly, usually taking some months to contract sufficiently to make serious trouble. There are instances in which years have elapsed before the evil results of its encroachment on the bore of the urethra became apparent, the cause of its formation having long been forgotten.

The Symptoms. The symptoms necessarily depend largely upon the tightness of the stricture. A more or less distinct lump may sometimes be felt from the outside of the penis, embracing a portion of the urethra. As a rule, there is momentary pain at the seat of the trouble, which starts up at the instant the urine begins to pass, or it may continue during the entire voiding and occasionally for some time afterwards. Many patients find on arising in the morning, or after they have gone for a long time without urinating, that the lips of the meatus are glued together with a sticky, mattery mucus. Where the stricture is slight there may be nothing obvious save that the stream of urine is no longer round, smooth and projected with force, but has become twisted, forked,

spattering and dribbling. It is the experience of most sufferers that all of these symptoms are increased, if the urine is permitted to become unduly acid or concentrated, if they indulge sexually or drink alcoholic beverages; and that not infrequently it starts anew a gleet discharge which needs energetic treatment before it subsides. It is an unfortunate fact that posterior urethritis and prostatitis generally of a serious character ensue after a stricture has become well marked, and that they are responsible for epididymitis, orchitis, varicocele, seminal vesiculitis, spermatorrhoea and eventually for impotency even in those who should still be possessed of the virility of early manhood. Coincident with the establishment of these conditions it becomes difficult to start the urine, although there is a strong and almost constant desire to do so and great straining is necessary to keep it flowing. When matters have reached this point, rectal irritation and piles usually develop, and in extreme cases rupture and prolapse of the rectum occur. A complete inability to void the urine almost inevitably follows, owing to the stricture having completely closed that portion of the urethra it involves, and then the

Fig. 3.



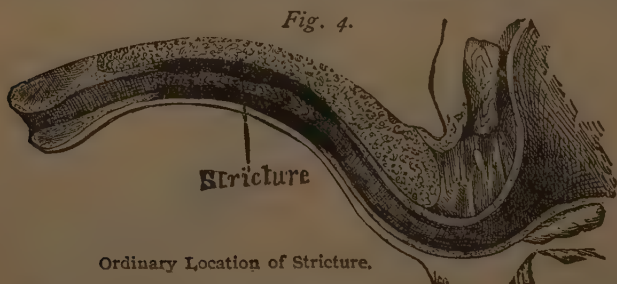
Condition of the Urethra with three Strictures and a congenital contraction at the meatus or outlet.

water has to be drawn with a catheter. It is then, too, that cystitis and stone, add their complications and the life may be jeopardized by uremic poisoning. The sensitiveness of the urethra which has now become excessive makes the introduction of instruments for emptying the bladder particularly difficult, and apt in unskilled hands to result in the production of false passages which extend into the substance of the penis and serve as the starting point for urethral and perineal fistulæ that are exceedingly rebellious to treatment; and yet, as long as the obstruction in the urethra remains the urine must be drawn several times every twenty-four hours to prevent rupture of the bladder, which means shock, collapse and an inevitable fatality.

The Urine. The urine has much the same characteristics it has in cases in which the obstruction to its passage is due to enlarged prostate. Mucous streamers, however, as a rule, take the place of the floating,

comma-like plugs generally found when the prostate is at fault. The examination of the excretion is a matter which should never be neglected, and it should always be delegated to experts in the work.

Treatment. In the treatment of no malady does technical skill, manual dexterity and an intimate knowledge of the condition of the parts affected, both in health and disease, and long experience, count for more to the advantage of the patient than in stricture of the urethra. Our Specialists not only possess these qualifications in a very marked degree, but, also, the ability to adapt their procedures to the requirements of the most complicated or unusual case. Because of this they accomplish the results they have in view with a remarkable uniformity and without causing pain. They do not further irritate the already supersensitive urethra, and are never guilty of making false passages with their instruments, or of jeopardizing the life of the individual. Their methods which are very largely of their own devising are infinitely superior to those employed by the profession at large. The old



way of gradually dilating a stricture is painful, and so very tedious, often requiring months and years, that it is rarely carried out to completion and at the best it is often very unsatisfactory. The operation of external urethrotomy which has to be performed with the patient under deep ether or chloroform anæsthesia, consists of cutting into the urethra from the outside of the penis, and often means a deep, dangerous and bloody wound through the perineum. It always keeps one confined to bed for many days and frequently for weeks. In our treatment we employ an instrument which has been improved in almost every particular over the first one devised until it has closely approached perfection. We introduce it within the urethra, pass it through the most impervious stricture with ease and divide the fibres of the obstruction without injuring any of the surrounding structures, by an incision which is scarcely more than a sixteenth of an inch in depth; only a few drops of blood accompany it. A local anæsthetic which prevents all pain, and does not render the patient unconscious, is employed. Occasionally we enjoin a rest for a day or two in bed immediately afterwards, as a matter of routine, but in many instances this can be dispensed with. The ensuing treatment

entails but little if anything more than temporary discomfort, and is rarely objected to by the possessor of the most sensitive urethra. The advantages of our scarless, painless, safe and incomparably more efficient methods over those generally employed elsewhere than at the Invalids' Hotel and Surgical Institute are too obvious for comment. As in the other diseases of the urinary organs, the sooner after its inception a case of stricture is cared for the less is the liability of the occurrence of the various complications possible, the less the suffering its victim will be called upon to endure, and the more promptly will he be removed from the zone of danger which encompasses him. Delays are dangerous and no man should indulge in the hope that, because his stricture contracts very slowly, possibly taking months to make any appreciable progress, it will not close down completely in time, or that it will disappear of itself. The latter ending to the trouble is unknown and it yields only to the proper treatment, and that we are prepared to administer.

CONCLUDING SUGGESTIONS.

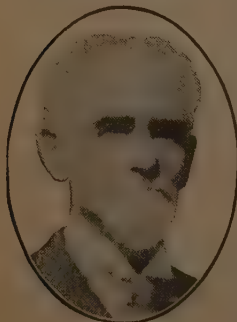
Virtually all diseases of the urinary organs begin as an inflammation of some part of the mucous tissue which, it will be recollected, lines the interior of all of them. In the greater number of cases certain medicines having a curative influence over disturbances in these structures, taken as soon as the early symptoms are apparent, save the person afflicted from what would otherwise be a serious illness. The remedies which are indicated in the fairly well advanced, as well as in the incipient cases, are Dr. Pierce's Golden Medical Discovery, Dr. Pierce's Favorite Prescription and Dr. Pierce's Anuric. We advise Dr. Pierce's Golden Medical Discovery for men and Dr. Pierce's Favorite Prescription for women, as they are especially adopted to the peculiar requirements of the respective sexes. Both the "Discovery" and the "Prescription" are made from medicinal roots and barks which exercise a wonderfully soothing and restorative effect on all unhealthy mucous surfaces, and contain absolutely no alcohol, narcotics, or other dangerous ingredients. Both men and women should use Dr. Pierce's Anuric Tablets which have proven of great value in promptly relieving inflammation of the urinary organs (bladder and kidneys), and thus preventing in hundreds of cases the developing of chronic and often-times incurable diseases. We are constantly receiving reports of the cure of urinary troubles from individuals who have depended upon Anuric alone. We are also told almost daily by various others who have made use of our special medication, or who were obliged to be under our immediate care at the Invalids' Hotel, that Doctor Pierce's Golden Medical Discovery, or Dr. Pierce's Favorite Prescription with Dr. Pierce's Anuric has kept the malady in check, relieved their severe symptoms and made life endurable until they were able to follow in detail such suggestions and instructions as we proposed and advised. As these medicines can be purchased in either liquid or tablet form at any drug store in the United States, Canada, and most other parts of the world, every one who is afflicted with any form of urinary disease has at command reliable remedies which are sure to be of material service. No one will go astray by using them at least until consulting us, or until the necessity for other treatment is unmistakable.

In a practice embracing the treatment of a vast number of cases of diseases of the Urinary Organs, it has been our good fortune to effect many remarkable cures. The experience gained in this field of practice has made our specialists skilled experts, and hence hundreds consult them as a last resort. In fact we seldom get a case, in this line, that has not been the rounds of the home physicians before applying to us for relief and cure. The cases, therefore, which we shall introduce here are the more remarkable because of the failure, in nearly every case, of other medical men to benefit or cure. They are not the every-day, ordinary cases met with in the general practitioner's rounds, but complicated, obstinate ones, which had generally been given up as hopeless before coming to us.

ENLARGEMENT OF THE PROSTATE.

DR. PIERCE'S INVALIDS' HOTEL, 663 Main St., Buffalo, N. Y.

Gentlemen—Some four years ago I commenced having pains in my bladder and enlargement of the prostate gland. I had to go to a physician to have him use a catheter. I went to different doctors and they treated me but relief proved only temporary. I kept getting worse until I had to go to bed.



MR. ROBINSON.

I knew a man who had been to your Institution. His case was similar to mine but not so bad. He told me to go and let your physicians examine me, that I might have a chance at least. (I am 77 yrs. old.) I took his advice. That was about one and one-half years ago. My ankles were swollen and I was having lots of pain. I was doubtful as to whether it would be of any use to try any further for relief but finally with the help of my grandson I took a sleeper from Scranton to your Institution and was examined by your doctors. They told me what my trouble was and that they could perform an operation that would

relieve me at once. I took their advice. The operation was painless and was a success in every respect. I stayed there one month and felt perfectly at home. The nurses, the attendants and the help in the dining room make any one feel at home. I cannot say too much for the Invalids' Hotel.

Yours very respectfully,

T. C. ROBINSON.

ENLARGED PROSTATE GLAND.

INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Gentlemen—I tried several different doctors, and they did me no good. They called my trouble enlarged prostate gland and it got so bad that I had no rest, night or day. Two years ago I went to your Invalids' Hotel for thirty days and I haven't been troubled one minute since. You did all you said you could, and more.

In your Institution all are treated alike, rich and poor, and I never was in a place over night, outside of one home, where I felt so much at home as I did at the Invalids' Hotel. I will be glad to say a good word for the place at any time to any one who asks me. I can't say too much for what you did for me.

Yours truly,

EDWARD TOMB.

STRICTURE AND VARICOCELE.

DR. PIERCE'S INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen — I suffered for several years from varicocele and stricture. Spent \$123.00 at Kansas City, and it did me no good. I later met a doctor who treated me for the stricture but he told me I would not get entirely well until I was operated on for the varicocele, but he could not do the work. I suffered nearly a year longer. In some way I got one of Dr. Pierce's Medical Advisers and found my trouble described so I went to Dr. Pierce's Invalids' Hotel, Buffalo, N. Y., two years ago. The operation as performed there was painless, and a perfect success. I talked with the doctor while he was doing the work. Was in bed only one day and night. I have nothing but praise for the doctors and all the surroundings and I am glad of the day that I walked up Main Street in Buffalo and found Dr. Pierce's Invalids' Hotel.

Yours truly,

JAMES WILLIAMS, Jr.



MR. WILLIAMS.

ENLARGED PROSTATE.

DR. PIERCE'S INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen — It is with much pleasure that I write to inform you of the great benefit I received while at your Invalids' Hotel last January. I am feeling all right, have been feeling excellent ever since I came back home. I know that I am permanently relieved of the trouble for which I was treated at your Institute. I have no bladder or urinary trouble since I was operated on for the prostatic trouble. I shall never forget the kind treatment I received during my stay at the Invalids' Hotel and everything was so homelike and pleasant. If I ever should have occasion to go to a Sanitarium again I undoubtedly would go to Dr. Pierce's.

I forgot to say that before I was treated I was annoyed getting up several times during the night; it being urgent also in the daytime. All of this has now disappeared.

I write this with the hope that some one afflicted as I was may be induced to seek relief, with full assurance that it can be obtained at your hands.

Many wishes for your success and happiness.

Yours sincerely,

L. M. SIDDONS.



MR. SIDDONS.

DROPSY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—I lay at the point of death for three weeks with dropsy, and for five weeks sat propped up in bed, and feel that I owe my life to the skill and untiring efforts of the doctors at the Invalids' Hotel in Buffalo, N. Y., who have the very worst cases to contend with. Had been doctoring for a year with home doctors and also specialists, and felt that the only hope I had of life was to go to the Invalids' Hotel for treatment. They have there every facility and method under the sun for treating chronic diseases. They also have the most patient, kind and attentive nurses, and nothing is left undone for the welfare and comfort of patients. The table is supplied with the very best that the market affords. My only regret is that I did not go sooner. It has been a year since I left Doctor Pierce's Institute and I have noted no sign of dropsy returning. Am enjoying the best



MRS. PEACOCK.

of health. Will, with pleasure, answer all letters of inquiry.

With gratitude, I remain, yours in health,

Mrs. S. A. H. PEACOCK.

KIDNEY DISEASE.

DOCTOR PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I was troubled with kidney trouble about ten years ago and was given up as incurable by two doctors in Chicago and three at home. I then wrote to you and you sent the medicine that cured me. After that I was examined by five doctors and they pronounced me well of kidney disease.

Yours,

A. F. LEWIS.

BLADDER.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—When I started to take Anuric two months ago I was suffering so with rheumatism in my arms and shoulders that I could not dress myself, and my knees pained me so that I could scarcely get up from my chair. I also suffered severely with backaches, and my bladder troubled me. The relief I have had from Anuric is simply wonderful, the pains have almost entirely disappeared, my bladder has been strengthened so that I have no further trouble in the way, and my general health is greatly improved.

Very truly yours,

MRS. ADELL C. MOULTON.

MRS. MOULTON.



ENLARGED PROSTATE GLAND AND HYDROCELE.

DR. PIERCE'S INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen—About twenty years ago my urinary troubles began, but being a hard worker I did not take time to take any kind of treatment. In 1917 it came to a show-down, I had to do something or pass on and arrange for a crossing over the dark river. In March that year I wrote to your Specialists stating my condition—a bad case of enlarged prostate gland and hydrocele on one side. (I was carrying 32 ounces of water all the time). The reply was all I could wish—recommending an almost painless operation. I left home July 23, 1919, and I was at the Invalids' Hotel thirty days. Left the Institution as sound and well as any one could be. I am past 75 years old.



MR. AVARD.

I can recommend the physicians and surgeons at the Invalids' Hotel for their skill and pain-taking treatment. They are honorable, high-class

gentlemen, and it's a real home. Go there and get well!

Yours truly,

SAMUEL AVARD.

STRICTURE OF URETHRA.

DR. V. M. PIERCE, PRES., INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Dear Sir—I have been thinking for some time that I ought to drop you a word of thanks for what you have done for me. I really do not know how to express my thanks. Five years ago this coming month I was at your Institution for four weeks for the treatment of two bad strictures, of which I was entirely cured, and since that time (the last four years) I have had the best of health. I am now 76 years old and can do a good day's work on the farm. Although I live in town I have a farm outside.

I wish to say further that the Sanitarium is a real home for any one to go to; there should be no dread for any one to go there, for it is a genuine home and everybody is treated so nicely. I shall always use my best influence in your behalf.

With best regards, I am,

Very sincerely yours,



MR. SIMMONS.

J. W. SIMMONS.

ENLARGED PROSTATE.

INVALIDS' HOTEL, Buffalo, N. Y.



MR. E. EVANS.

Gentlemen.—You wrote to me before I came to Buffalo stating if I would come to the Invalids' Hotel for treatment for the enlarged prostate gland that I would get the relief I needed. So after being there thirty days for treatment I am glad to say that I got the relief I was looking for. I am glad that I took your advice and went to you for treatment, and I feel that if any one is afflicted with any disease, he or she can't make a mistake in going to the Invalids' Hotel for treatment, for I feel that you have the best doctors and nurses that can be had and all the accommodations that man could wish for. I feel thankful to the doctors and nurses and all in the Hotel for the kind treatment I received while there.

I will be glad to recommend any one who is afflicted to go to the Invalids' Hotel for treatment. I remain,

Yours sincerely,

ELEAZER EVANS.

KIDNEY TROUBLE. BACKACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main St., Buffalo, N. Y.

Dear Sir:—Because of the good I have received and out of consideration for those who suffer from backache and kidney trouble, I want to give this word of praise for Dr. Pierce's Anuric. For some years I suffered from lumbago and weak kidneys. At times I could not move or change the position of my body. I tried all kinds of things, plasters outside, and medicines inside, but got no relief. At last I heard of Dr. Pierce's Anuric (for kidney trouble and backache) and it was recommended for just such a case as mine. I have almost finished the second bottle and I am feeling free from my old aches and pains. "Anuric" goes to the cause of the trouble and removes it. I am so pleased with this medicine and what it has done for me that I am glad to recommend it.

Very truly yours,

MRS. C. SCHNEIDMILLER.

ENLARGED PROSTATE GLAND.

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.

Gentlemen:—I suffered for six or eight years with enlargement of the prostate gland before discovering what was the matter with me. Finally I got so bad that I could scarcely pass any urine at all without great pain. My doctor made an examination and pronounced it enlargement of the gland and advised an operation. I was so very weak by that time that I knew an operation with the knife would finish me, so I happened to remember that we had one of your "Medical Advisers" in the house and it spoke of your treatment for an enlarged prostate gland without using the knife. So I decided to go to your Invalids' Hotel and shall always be thankful that I did. I take pleasure in advising every one who has that trouble or any other to do the same. The operation was entirely painless and, after more than a year, I have had no return of the trouble. I am getting on fine and will never forget the kind treatment I received while under your care.

I don't believe there is a place in the whole world better equipped to care for suffering humanity than yours.

With kindest regards,

W. F. P. MCGEE.



MR. MCGEE.

KIDNEY TROUBLE, BACKACHE, DIZZY SPELLS.**Found Relief in "Anuric."**

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL AND SURGICAL INSTITUTE,
No. 663 Main Street, Buffalo, N. Y.:

Dear Sir—"Anuric" is an excellent medicine for kidney trouble and backache. I used to suffer with kidney trouble and my back would ache most all the time. In the mornings when I went to get up it seemed the worst. I would have dizzy spells and black specks would appear before my eyes. I took "Anuric" and found it very good in relieving me of these ailments. My kidneys have been stronger and more active since. I would advise those who suffer with their kidneys to try "Anuric."

Yours very truly,

MRS. D. HILL.

KIDNEY, BLADDER AND STOMACH TROUBLE.

DR. PIERCE, PRESIDENT WORLD'S DISPENSARY MEDICAL ASSOCIATION,
No. 663 Main Street, Buffalo, N. Y.:



MRS. STYSON.

Dear Sir—I was a great sufferer for many years with complicated kidney, bladder and stomach trouble. Was treated by my local doctor without any beneficial results, and gradually got worse and thought surely I was going to die. At last, about January, 1915, I began the use of Dr. Pierce's Anuric Tablets, together with his "Favorite Prescription" and his "Golden Medical Discovery," and soon began to get better. I can now do all my housework, cook three meals a day, and enjoy life. I keep "Anuric" in my house all the time. I gladly recommend Dr. Pierce's Anuric Tablets to those who suffer with kidney and bladder trouble. I believe this medicine was a God-send to me. Many thanks to Dr. Pierce for his great remedies.

Yours truly,

MRS. W. W. STYSON.

INFLAMMATION OF BLADDER AND KIDNEYS.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I had a complete break-down from overwork, so the doctor said. I surely was a wreck and suffered terribly from bladder and kidney trouble; in fact, I was down on the flat of my back for about two weeks; could not do anything. My suffering was so great I can't explain it. The doctor said I had inflammation of bladder and kidneys. He came every day, and finally managed to get me up and around, but still I was a great sufferer. I never got much relief until I began to take "Anuric," and from the very first dose I got relief, and in ten days I felt well, and never have had one symptom since. I can't praise this medicine enough. I have been waiting to see if the pain would return, but I believe I am cured.

Very sincerely,

MRS. ALMIRA I. HENDERSON.

URINARY TROUBLE AND ENLARGED PROSTATE.

New Discovery, "Anuric", Brought Cessation of Symptoms.

DR. V. M. PIERCE, 663 Main Street, Buffalo, N. Y.:



MR. FLEISHER.

to this great boon that relieves this seemingly worst of all troubles that human flesh can fall heir to.

Gratefully and very truly yours,

H. H. FLEISHER.

BACKACHE.

"Anuric" Gave Relief in a very Short Time.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I suffered for years with backache. Last March I received a box of Dr. Pierce's Anuric Tablets and have used them and they are just wonderful to ease pain and give relief in such a very short time. I have tried several medicines but "Anuric" excels any I have tried. I feel it my duty to recommend these Tablets to any who need them.

Yours truly,

MRS. MARGARET E. SNIDER.

KIDNEY TROUBLE, BACKACHE.

DR. V. M. PIERCE, 665 Main St., Buffalo, N. Y.:

Dear Doctor—For a long time I suffered from backache, pain in left side, frequent urination, bothering me at all times during the day and night, and the poison in my blood caused me to suffer from rheumatism along with a constant tired, worn-out feeling. I heard of Doctor Pierce's new remedy, called "Anuric", and obtaining these tablets I at once began their use. After giving "Anuric" a good trial I believe it to be the best remedy of the kind on the market today. I have tried other medicines but the "Anuric Tablets" are the only ones, in my opinion, that will relieve kidney and bladder troubles.

Yours truly,

HENRY A. LOVE.



MR. LOVE.

KIDNEY TROUBLE. BACKACHE.**Druggist Advised Dr. Pierce's Anuric Tablets.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main St., Buffalo, N. Y.



MR. J. L. MCADORY.

Gentlemen:—Two years ago I was in bad shape with rheumatic pains, backache and a soreness in my kidneys. I got so bad that it was impossible for me to climb up a ladder, or bend my back to work. I had tried relief through medicines recommended to me but finally I had to give up work entirely. I was then in Jacksonville. I told a druggist there my condition and asked him to give me what he considered the best medicine for my trouble. He said, "There is nothing I know of better than Pierce's Anuric Tablets." I brought home a bottle and after taking the tablets for four days felt a wonderful improvement, so much so that I was able to go to work. I kept on with the medicine for several weeks, and to tell the truth, I have not had an ache or a pain since. You don't wonder do you that I have the best word of praise for Dr. Pierce's Anuric Tablets!

Yours very truly,

J. L. MCADORY.

KIDNEY TROUBLE.**Cured by Home Treatment.**DOCTOR PIERCE'S INVALIDS' HOTEL AND SURGICAL INSTITUTE,
665 Main Street, Buffalo, N. Y.

Gentlemen:—After taking your home treatment I feel that I am entirely cured of kidney trouble. The pains in my back have ceased and I have gained in strength and flesh. Never felt better.

I cannot express my appreciation of your kindness and beneficial treatment.

Yours truly,

NELSON JONES.

KIDNEY TROUBLE

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL, Buffalo, N. Y.

Dear Dr. Pierce:—It was a fortunate day for me when I first heard of and began to take Dr. Pierce's Anuric Tablets for the relief of my kidneys and backache. For several years this trouble had been growing on me until I reached the point where it was impossible for me to continue my work. The pain and distress were almost beyond endurance when stooping to do my work. At night I got very little sleep as the pain and the desire to relieve the bladder broke my rest. I tried everything I heard of that might help, but my condition remained unchanged. At last I heard of Dr. Pierce's Anuric Tablets and began to take them regularly. Within a week I was a changed man, the pain and distress left my back and kidneys and I could sleep through the night in comfort, undisturbed. I would like my experience to be known to every one who suffers as I did.



MR. M. G. HOLDER.

Very truly yours,

M. G. HOLDER.

Series VIII. No. 5802. Stone in the Bladder.

D. H., Addy, Wash. H. R. 2S-78. 2B-848. General anaesthetic. Some pain, no vomiting or fever. In bed one day. Discharged in 30 days. Result, cured.

"I consider you have saved my life, and will try to influence suffering humanity to visit your grand Institution for relief and cure."

Series VIII. No. 5804. Stone.

J. F., Smithton, Pa. H. R. 2S-187. 2B-1031. General anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 30 days. Result, cured.

"For eight months I had been a sufferer from gravel or stone in the bladder. I went to the Invalids' Hotel and was operated upon. The method was crushing and pumping out. In this manner a stone, shown by the X-ray to be an inch or more in length, was removed in about twenty minutes."

Series VIII. No. 5877. Stone in the Bladder.

Mr. L., La Farge, Wis. Record in book 2L—page 39. 2A-2382. In bed one day. General anaesthetic. Pain in right chest. No vomiting or fever. Discharged in 20 days. Result, cured.

Series VIII. No. 5857. Stone in the Bladder.

Mr. M. T., Reynolds, Nebr. H. R. 26-76. General anaesthetic. In bed one day. Little pain. No vomiting or fever. Discharged in 30 days. Result, cured.

Stone weighed (wet) 1217 grains, (dry) 661 grains.

Series VIII. No. 5822. Stone in the Bladder.

J. F., Old Forge, Pa. H. R. 2Q-195. 2B-237. General anaesthetic. Weight, 40 grains. In bed one day. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

"Having undergone an operation at the Invalids' Hotel for stone in the bladder from which I had suffered for nearly two years, I take pleasure in certifying to the speedy and certain cure afforded, and the painless nature of the operation."

Series VIII. No. 5850. Stone in the Bladder.

Mr. C. C., Middletown, N.Y. H. R. 60-223. Calculus weighed 530 grains. Local anaesthetic. In bed one day. Much pain. No vomiting or fever. Discharged in 30 days. Result, cured.

Series VIII. No. 5848. Stone in the Bladder.

Mr. F. C., Hamilton, Ont. H. R. 2C-57. General anaesthetic. In bed one day. Stone weighed 363 grains. Everything in fine condition. Discharged in 20 days. Result, cured.

Series VIII. No. 5824. Stone in the Bladder.

W. D., Fort Benton, Mont. H. R. 2P-31. 2B-782. General anaesthetic. In bed one day. Some pain, no vomiting or fever. Discharged in 15 days. Result, cured.

"It is nearly four years since you operated on me for stone in the bladder, and I am perfectly well on that point as far as I can detect. Have never experienced any return of the trouble."

Series VIII. No. 5808. Stone in the Bladder.

C. A., Kansas City, Mo. H. R. 2V-78. 2B-1583. Local anaesthetic. Removed six calculi. Present 12 years. Discharged in 20 days. Result, excellent.

"Your world-renowned surgeon extracted from my bladder in about fifteen minutes, with scarcely any perceptible pain, six stones, weighing fifty-five grains. They were taken out through the urethra, without any cutting or laceration of the parts, and producing immediate relief."

Series VIII. No. 5846. Vesical Calculus.

Mr. T. D., Huntington, Ind. H. R. 2E-99. Size of stone $1\frac{1}{2}$ inches in diameter. General anaesthetic. In bed one day. Little pain. No vomiting or fever. Discharged in 20 days. Result, cured.

Series VIII. No. 5843. Stone in the Bladder.

Mr. C. T., Ruddels Mills, Ky. H. R. 2F-6. Size of stone $\frac{3}{4}$ of an inch in diameter. General anaesthetic. In bed one day. No pain. Some nausea. No fever. Discharged in 30 days. Result, progressed nicely and feels very well.

Series VIII. No. 5819. Stone in the Bladder.

Mr. F., Trenton, Ont. H. R. 2Q—159. Weight of stone 280 grains. General anaesthetic. In bed one day. Little pain. No vomiting or fever. Discharged in 25 days. Wound healthy. Result, cured.

Series II. No. 3587. Stone in the Bladder.

Mr. R., Fairmount, Ind. Record in book 2P—page 75. Operation No. 5901. In bed one day. Local anaesthetic. No pain, or vomiting. Chills and fever. First dressing on first day. Discharged in 17 days. Result, cured.

Series II. No. 157. Stone in the Bladder.

Mr. B., Bryson, Texas. Record in book 2Q—page 144. Operation No. 5915. In bed one day. General anaesthetic. No pain, vomiting or fever. First dressing on first day. Wound healed. Discharged in 11 days. Result, cured.

"I went directly to the Invalids' Hotel. An examination was made and my ailment pronounced Stone in the Bladder. I have the X-ray photograph of the stone which shows it to be considerably larger than a hen's egg. I also have the crushed stone bottled which weighs a little more than two ounces, or to be exact one thousand grains. I was not necessarily bedfast at any time and at the end of eight days I was walking around the streets of Buffalo, and twenty-seven days after arriving at the Invalids' Hotel I left for my home. Although seventy-four years old, I feel very much better than I have felt for several years past."

Series II. No. 198. Stone in the Bladder.

Mr. B., Bridgeport, Conn. Record in book 2Q—page 167. Operation No. 5918. In bed one day. General anaesthetic. No pain, vomiting or fever. First dressing on first day. Wound well. Discharged in 20 days. Result, cured.

Series II. No. 200. Stone in the Bladder.

Mr. G., Caro, Mich. Record in book 2Q—169. Operation No. 5919. In bed one day. General anaesthetic. No pain or vomiting. Chills and fever. First dressing on first day. Wound doing well. Discharged in 15 days. Result, cured.

Series II. No. 416. Stone in the Bladder.

Mr. B., Buffalo, N. Y. Record in book 2R—page 62. Operation No. 5921. In bed one day. General anaesthetic. Some pain. Considerable vomiting. No fever. First dressing on third day. Wound doing well. Discharged in 10 days. Result, cured.

Series II. No. 581. Stone in the Bladder.

Mr. L., Morristown, N. J. Record in book 2P—page 181. Operation No. 5907. In bed one day. General anaesthetic. Some pain. No vomiting or fever. First dressing on first day. Wound doing well. Discharged in fifteen days. Result, excellent.

Series II. No. 237. Stone in the Bladder.

Mr. F., Old Forge, Pa. Record in book 2Q—page 195. Operation No. 5920. In bed one day. General anaesthetic. No pain, vomiting or fever. First dressing on first day. Wound healed nicely. Discharged in 20 days. Result, cured.

Series II. No. 2745. Stone in the Bladder.

Mr. C., North Easton, N. Y. Record in book 2M—page 10. Operation No. 5881. In bed one day. General anaesthetic. No pain, vomiting or fever. Wound healed. Discharged in 20 days. Result, cured.

Series II. No. 3050. Stone in the Bladder.

Mr. M., Erie, Pa. Record in book 2M—page 166. Operation No. 5887. In bed one day. General anaesthetic. No pain. Vomited. No fever. Wound healed. Discharged in 15 days. Result, cured.

Series II. No. 3098. Stone in the Bladder.

Mr. B., Richland, Oregon. Record in book 2M—page 194. Operation No. 5889. In bed one day. General anaesthetic. Little pain. No vomiting or fever. Wound healed. Discharged in 12 days. Result, cured.

Series VIII. No. 5801. Stone in the Bladder.

Mr. C., Leamington, Ont. H. R. 12—35. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Wound well. Discharged in 30 days. Result, cured.

Series VIII. No. 5803. Stone in the Bladder. Weight 50 Grains.

Mr. N., Carbondale, Pa. H. R. 36—15. General anaesthetic. In bed one day. No pain. Some vomiting. No fever. First dressing on fifth day. Wound in good condition. Discharged in 15 days. Result, cured.

Series VIII. No. 5805. Stone in the Bladder. Weight 100 Grains.

Mr. B., Leando, Iowa. H. R. 36—78. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing fifth day. Wound doing nicely. Discharged in two weeks. Result, perfectly cured.

Series VIII. No. 5806. Stone in the Bladder.

Mr. M., Germania, Pa. H. R. 53—77. General anaesthetic. In bed one day. No pain. Some nausea. No fever. First dressing on fifth day. Wound has done well. Discharged in 30 days. Result, cured.

Series VIII. No. 5807. Stone in the Bladder.

Mr. F., Utica, N. Y. H. R. 53—80. General anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on fifth day. Wound in good condition. Discharged in 30 days. Result, cured.

Series VIII. No. 5809. Stone in the Bladder. Weight 520 Grains.

Mr. A., Buffalo, N. Y. H. R. 53—136. General anaesthetic. In bed one day. Some pain. Some nausea. No fever. First dressing on fifth day. Wound well. Discharged in 25 days. Result, cured.

Series VIII. No. 5810. Vesical Calculus.

Mr. H., Woodstock, Ont. H. R. 53—225. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Wound doing well. Discharged in 30 days. Result, cured.

Series VIII. No. 5811. Stone in the Bladder.

Mr. C., Norwich, Ont. H. R. 20—195. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing fifth day. Wound in excellent condition. Discharged in 30 days. Result, cured.

STONE IN BLADDER.

DR. PIERCE'S INVALIDS' HOTEL,
Buffalo, N. Y.



MR. WORK.

Gentlemen—After suffering more or less for years and having two operations with the knife, which gave but temporary relief, I went to your Institution. The soreness and distress in my bladder and urinary passage had become so severe that I had but little rest day or night, so intense was the pain by spells that I could scarcely walk, and I was disturbed toward the last on an average of once an hour day and night. The physicians I consulted before going to your Institution did me no good. I secured some three years ago, The People's Common Sense Medical Adviser, and had read the portion that seemed to fit my case. From this I made up my mind to visit the Invalids' Hotel. The treatment I received there helped me from the beginning. The cause of the whole trouble, which was stone in the bladder, was discovered and removed without pain, and the soreness gradually ceased until it was gone entirely. The operation kept me from the dining-room but three meals. It is nine months since the operation was performed, and up to this time no symptoms of the former painful distress have occurred. Kind providence directed my feet to your Institution and blessed the means which were used in my case.

Yours very sincerely,

AARON WORK.

Series VIII. No. 5837. Stone in the Bladder. Weight 11 Grains.

Rev. M., North Sanford, N. Y. H. R. 2Q-108. 2A-4016. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Wound in excellent condition. Discharged in five days. Result, cured.

Series VIII. No. 5839. Stone in the Bladder.

Mr. P., Gordon, Ont. H. R. 2R-31. General anaesthetic. In bed one day. Sharp, cutting pain. No vomiting or fever. First dressing fifth day. Discharged in 30 days. Most comfort for ten years.

Series VIII. No. 5844. Stone in the Bladder.

Mr. R., Brownington, Mo. H. R. 2R-98. General anaesthetic. In bed one day. No pain, vomiting or fever. Weight of Calculus 36 grains. In first class condition. Discharged in 30 days. Cured.

"I was taken sick with stone in the bladder when eight years of age, having an attack about every six months. This continued until I was twenty-one years of age, when the disease had progressed so far that I suffered all the time both day and night, unable to eat or sleep. My water was dribbling away and all the time I was passing pus and small particles of stone. On the 2d of Dec. I was operated upon. The stone was crushed and removed, and I am happy to say I was up the next morning feeling better than I had in a good many years, and every day my improvement has been steady in every respect. My appetite is good, I sleep well, constipation is gone, and I feel so good in every way that I can hardly contain myself with joy."

Series VIII. No. 5845. Stone in the Bladder.

Mr. S., Zwolle, La. H. R. 2R-101. General anaesthetic. No pain, vomiting or fever. Removed 50 grains of stone. Discharged in 20 days. Fine cure.

Series VIII. No. 5847. Stone in the Bladder.

Mr. F., Chesterland, Ohio. H. R. 2R-125. General anaesthetic. In bed one day. Little pain, no vomiting or fever. Wound in excellent condition. Discharged in 30 days. Cured.

Series VIII. No. 5849. Stone in the Bladder.

Mr. B., Miller, Nebr. H. R. 2S-60. General anaesthetic. Slight pain, some vomiting, no fever. First dressing fifth day. Wound doing well. Discharged in 30 days. Result, cured. No recurrence.

Series VIII. No. 5851. Stone in the Bladder, for years.

Mr. S., Moingona, Iowa. H. R. 2S-112. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing fifth day. Wound in fine shape. Discharged in 30 days. Result, cured.

Series VIII. No. 5852. Stone in the Bladder.

Mr. A., Perch River, N. Y. H. R. 2S-197. General anaesthetic. In bed one day. No pain, vomiting or fever. First dressing fifth day. Discharged in 30 days. Wound doing nicely. Result, cured.

Series VIII. No. 5853. Stone in the Bladder. Weight 70 Grains.

Rev. T., McAllister, Pa. H. R. 2U-79. 2B-1216. Several small gravels. General anaesthetic. In bed one day. No pain, vomiting or fever; Wound about healed. Discharged in 10 days. Doing well.

Series VIII. No. 5854. Stone in the Bladder. Size of Hen's Egg.

Mr. H., Rea, Mo. H. R. 2U-122. 2B-1310. General anaesthetic. In bed one day. Little pain. Some nausea. Some fever and chills. First dressing on second day. Wound improving. Discharged in 12 days. Result, doing nicely.

Series VIII. No. 5855. Stone in the Bladder. Weight 260 Grains.

Mr. H., Kantz, Pa. H. R. 2U-148. 2B-1355. General anaesthetic. In bed one day. No fever or vomiting. No hemorrhage or pain. Discharged in 15 days. Cured.

PROSTATIC TROUBLE. DEEP STRICTURE.**Cure Permanent.**

**FACULTY INVALIDS' HOTEL, 665 Main St.,
Buffalo, N. Y.**

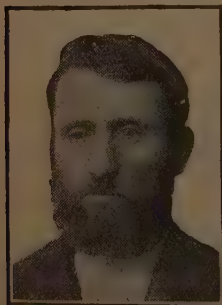
Dear Sirs:—It is now eighteen months since I was treated at Dr. Pierce's Invalids' Hotel and Surgical Institute and am certain that the operation was a great success and cure permanent. I can with the utmost confidence recommend your Institution to anyone who has prostatic trouble.

Yours respectfully,

J. F. LIVINGSTON.

ENLARGEMENT OF PROSTATE GLAND.**Returned Home after Thirty Days—Cured.**

**DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL,
Buffalo, N. Y.**



MR. JELLEFF.

Dear Sir:—I wish to express my thanks to the Faculty of your Invalids' Hotel. I was a sufferer of prostate gland trouble for four years and took treatment from other doctors but it did not do me any good. Finally I received one of your pamphlets which described my condition. I wrote your Specialists and they said what I needed was to come there for treatment, so I concluded to do so, and I found them the most skilful surgeons in the world. After thirty days' treatment I returned home, cured of my ailment. I was in my 68th year, now I am in my 70th, hale and hearty. I weighed 130 pounds then, now I weigh 170. I cannot express too great thanks to your Medical Association. Anyone troubled with this disease need not hesitate to go to you for he will be treated just right. The only thing I regret is that I did not know of your Institution sooner.

I am sending you one of my photographs and you can use my name and address in your book and pamphlets if you wish to do so.

With best wishes to all, I remain,

Very truly yours,

L. L. JELLEFF.

PROSTATIC TROUBLE.**Reports Two Years Later. Cure Permanent.**

**FACULTY DR. PIERCE'S INVALIDS' HOTEL,
Buffalo, N. Y.**

Dear Sirs:—It has been almost two years since I was treated at your Institution for prostatic trouble and I must say that since then it is a comfort to live. I can urinate freely. I am thankful for the day that I went to Buffalo.

I remain,

Yours respectfully,

E. W. BRICKER.

A STRONG ENDORSEMENT.

MR. BANKSTON.

To Whom It May Concern:

This is to certify that I took treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and I was cured of a chronic trouble that had been maltreated by other physicians. While there I saw a man who had been cured by the specialists, who had before been given up to die by the best doctors in Troy, N. Y. Of course, the case must have been a very stubborn one. I afterwards saw a man here, in Georgia, die, who, if he had been in Pierce's Surgical Institute under the treatment and care of his skilled doctors and nurses, I know would have most assuredly recovered. Why? Because it was only a case of *stone in the bladder*, and they are easily cured at Dr. Pierce's Surgical Institute. I think almost any chronic disease can be cured there, if

taken in time, judging from my observation while an inmate of that Institution.

H. E. BANKSTON.

ENLARGED PROSTATE, STRICTURE, VARICOCELE.

DR. V. M. PIERCE, PRESIDENT,
INVALIDS' HOTEL, BUFFALO, N. Y.

! Dear Sir—I deem it my duty to submit this testimonial relative to three operations I underwent while an inmate of the Invalids' Hotel and Surgical Institute three years ago. My troubles were enlarged prostate, stricture and varicocele, the last named being an aggravated case of fifty years standing or more, in fact, I do not remember the time when I did not have it. My intention on going to your Institution was removal of the enlarged prostate only, but I was so impressed with your successful treatment of others for similar troubles, as told by themselves, that I concluded to clean up the "bunch" of trouble while there. This was done, and I believe most successfully.

I deem the success in my case the more remarkable because of my age, 68 years, and that during my stay in your hospital for operations for the above maladies, I gained fifteen and a half pounds in flesh and suffered little inconvenience or pain and was confined to bed less than two days.

I can recommend your Institute to others similarly afflicted as being complete in its equipment, reasonable in charges, permanent in results, and the doctors, nurses and attendants vying with each other to make one's stay as home-like and agreeable as possible.

Speaking from experience, I know of no place to which I would sooner go or doctors in whose hands I would more readily place myself than the able corps of surgeons and physicians I met in your Surgical Institute.

Very respectfully yours,

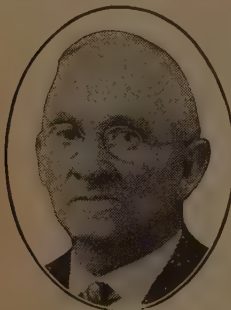
JAMES WHITEHEAD.



MR. WHITEHEAD.

STONE IN THE BLADDER.

DR. V. M. PIERCE, PREST. INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.:



MR. McCUSKEY.

Dear Sir—Having been a patient at your Surgical Institute in Buffalo, N. Y., and having undergone an operation for stone in the bladder, from which I had suffered for three years, I take great pleasure in certifying to the speedy and certain cure afforded and the painless nature of the operation. The second day after being operated on I was up most of the day, and part of the day was walking through the building, and on the fifth day I was walking the streets of Buffalo. The operation was very successful, without any cutting or pain.

I would advise any person who has stone or gravel, or a chronic affliction of any kind to go to Buffalo, to the Invalids' Hotel and Surgical Institute, as there is where they do things that count.

With all kind wishes for the continued success of the Institution, I am,

Very truly yours,

FESTUS McCUSKEY.

ULCERATION OF BLADDER.

DR. V. M. PIERCE, 665 Main Street, Buffalo, N. Y.

Dear Sir:—I visited your Invalids' Hotel about twenty-three years ago and was treated for an ulcer of the bladder, which, I am thankful to say, was completely cured. I may say that for about twelve years I was troubled with said complaint and consulted five or six of the leading doctors, but all in vain.

Should I ever again have any serious trouble I would apply to you at once for relief.

Yours very truly,

A. McKNIGHT.

**ENLARGEMENT OF PROSTATE GLAND FOR
TWENTY-FIVE YEARS.**

Treatment at Invalids' Hotel Complete Success.

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL,
Buffalo, N. Y.

Dear Sir:—I had been a sufferer from enlargement of the prostate gland for twenty-five years or more. By mere accident I learned of your Invalids' Hotel. I lost no time in getting there, and can say that the treatment of my case was a complete success. I also praise your Institution for the good and courteous treatment I received from every person connected with it. And the dining-room cannot be equalled. The tables are loaded with good "eats" all the time.

Respectfully yours,

H. S. FRANCE.



MR. H. S. FRANCE.

Series VII. No. 5967. Stricture.

Mr. D., Eldorado, Texas. Record in book 7M-page 49. 7B-1902. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 10 days. Result, cured.

Series VII. No. 5973. Phimosis.

Mr. A., Winnipeg, Man. Record in book 7M-page 118. 7B-1764. Local anaesthetic. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 10 days. Result, cured.

Series VII. No. 5987. Stricture.

Mr. H., Bowling Green, Ky. Record in book 7N-page 100. 7B-2068. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 10 days. Result, cured.

Series VII. No. 5988. Phimosis.

Mr. A., Vancouver, B. C. Record in book 7N-page 125. 7B-2114. Local anaesthetic. No pain, vomiting or fever. First dressing on second day. Wound healed. Discharged in 10 days. Result, cured.

Series VII. No. 5989. Phimosis.

Mr. G., Hastings, W. Va. Record in book 7N-page 126. 7B-2112. Local anaesthetic. Little pain. No vomiting or fever. First dressing on third day. Wound healed. Discharged in seven days. Result, cured.

Series VII. No. 5990. Stricture.

Mr. H., Hastings, W. Va. Record in book 7N-page 128. 7B-2116. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 18 days. Result, improved.

Series VII. No. 5991. Stricture.

Mr. S., Quitsna, N. C. Record in book 7N-page 131. 7B-2125. Local anaesthetic. In bed one day. Dull pain. No vomiting. Chill and some fever. Discharged in 10 days. Result, cured.

URETHRAL STRICTURE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. :

Dear Sirs—I consider it my duty to suffering humanity to state what I know concerning your Institution.

For seven years I suffered from urethral stricture, growing worse and worse each year, until at times I could pass no water at all. My only relief on such occasions was to go to bed with a hot-water bag; then, after a couple of hours I would get relief. In the meantime I was treated by three or four different doctors, each of whom made me worse, until finally, as a last resort, I determined to go to Buffalo and be treated by you. I arrived there in a hopeless condition—my whole nervous system upset. I was immediately operated upon, and while the operation was not altogether painless it was nothing compared to the bodily and mental agony that I had been enduring for some time past. I began improving from the first. I had expected to be away from home about three weeks, but I stayed five weeks. At the end of the three weeks my Doctor's advice was: "You may go, but you have come a long distance and I want you to get a thorough cure."

To those suffering from my disease and especially to those who have been swindled by the "Specialists" who abound in big cities I would say: "Go to Doctor Pierce's. There you will find doctors of ability, and above all, kind christian gentlemen." With best wishes, I am,

Respectfully,

W. A. DAVIS.

Series XXIII. No. 5993. Stricture.

Mr. B., Plattsburg, N. Y. Record in book 23AJ-page 175. 23B-1084. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

Series XXIII. No. 5995. Stricture and Irritation of the Urethra.

Mr. M., Tiskilwa, Ills. Record in book 23AJ-page 190. 23B-1105. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

Series XXIII. No. 5996. Stricture and Irritation of the Urethra.

Mr. F., Strasburg, Ohio. Record in book 23AJ-page 195. 23B-1112. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

Series XXIII. No. 9373. Hydrocele and Phimosis.

Mr. J., Ralfe, Pa. Record in book 23AM-page 136. 23B-1838. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Wound nearly healed. Discharged in 20 days. Result, cured.

"Being a sufferer with piles for fourteen months I resolved to go to your Institution and have them removed. This was done with so much satisfaction that I resolved to get fixed up entirely, so having varicocele and part obstruction of the urinary organs, I was operated upon again in about ten days. I could not say enough for your well-managed Institution if I wrote a little pamphlet."

Series XXIII. No. 5997. Phimosis.

Mr. C., Minneapolis, Minn. Record in book 23AK-page 139. 23B-1344. Local anaesthetic. Wound healed nicely. Discharged in ten days. Result, cured.

Series XXIII. No. 5998. Urethral Stricture.

Mr. T., Winburne, Pa. Record in book 23AL-page 122. 23B-1565. Local anaesthetic. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

Series XXIII. No. 5999. Phimosis.

Mr. M., Ontario, Oregon. Record in book 23AM-page 86. 23B-1777. Local anaesthetic. No pain, vomiting or fever. First dressing on second day. Condition of wound fine. Discharged in 10 days. Result, cured.

Series XXIII. No. 6000. Stricture and Varicocele.

Mr. D., Red Oak, Ills. Record in book 23AN-page 23. 23B-1958. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 15 days. Result, cured.

Series XXIII. No. 6001. Stricture and Varicocele.

Mr. M., Lost Cabin, Wyo. Record in book 23AN-page 142. 23B-2127. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Condition of wound fine. Discharged in 17 days. Result, cured.

Series XXIII. No. 6002. Redundant Scrotum.

Mr. A., Chicago, Ills. Record in book 23AN-page 184. 23B-2180. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 10 days. Result, cured.

Series XXIII. No. 6003. Phimosis.

Mr. N., Homestead, Pa. Record in book 23AP-page 34. 23B-2373. Local anaesthetic. No pain, vomiting or fever. First dressing on second day. Primary union. Discharged in 10 days. Result, cured.

Series XXIII. No. 6004. Stricture and Spermatic Cyst.

Mr. T., Blaine, W. Va. Record in book 23AP-page 54. 23B-2494. Local anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 10 days. Result, cured.

Series XXIII. No. 6005. Stricture and Varicocele.

Mr. A., Farmersville, N. Y. Record in book 23AP-page 62. 23B-2506. Local anaesthetic. In bed two days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 15 days. Result, cured.

Series XXIII. No. 6006. Piles, Hernia and Irritation of Urethra.

Mr. R., Hooversville, Pa. Record in book 23AM-page 81. 23B-1772. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed perfectly. Discharged in 30 days. Result, cured.

Series XXIII. No. 6007. Stricture and Irritation of Urethra.

Mr. V., Watertown, S. Dak. Record in book 23AQ-page 17. 23B-2730. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 20 days. Result, cured.

Series XXIII. No. 6008. Phimosis.

Mr. B., Addison, N. Y. Record in book 23AQ-page 179. 23B-2923. Local anaesthetic. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 10 days. Result, fine.

Series XXIII. No. 6009. Phimosis.

Mr. W., Carlisle, Pa. Record in book 23AQ-page 182. 23B-2926. Local anaesthetic. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 10 days. Result, cured.

Series XXIII. No. 6010. Spermatic Cyst.

Mr. T., Spencerville, Ohio. Record in book 23AQ-page 195. 23B-2951. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 20 days. Result, cured.

Series XXIII. No. 6011. Stricture.

Mr. B., Crary, North Dak. Record in book 23AR-page 55. 23B-3052. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in seven days. Result, cured.

Series XXIII. No. 6012. Stricture, Varicose Veins of Leg and Piles.

Mr. W., Meeteetse, Wyo. Record in book 23AR-page 135. 23B-3148. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on fifth day. Wounds healing well. Discharged in 19 days. Result, all cured.

Series XXIII. No. 6013. Stricture and Cystitis.

Mr. O., Elmira, N. Y. Record in book 23AR-page 161. 23B-3188. Local anaesthetic. Some pain. No vomiting or fever. Discharged in 10 days. Result, better.

Series XXIII. No. 6014. Stricture.

Mr. W., Holyoke, Mass. Record in book 23AS-page 25. 23B-3274. Local anaesthetic. In bed one day. No pain, vomiting or fever. Discharged in 14 days. Result, cured.

Series XXIII. No. 6015. Phimosis.

Mr. P., Corry, Pa. Record in book 23AS-page 36. 23B-3301. Local anaesthetic. No pain, vomiting or fever. First dressing on third day. Wound healed by first intention. Discharged in nine days. Result, cured.

Series XXIII. No. 6016. Stricture and Cystitis.

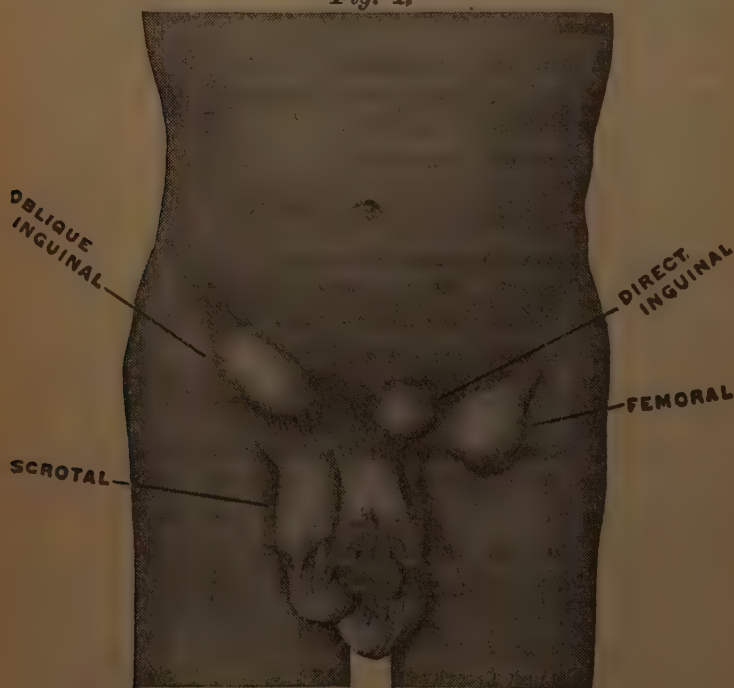
Mr. H., Andalusia, Ala. Record in book 23AS-page 37. 23B-3302. Local anaesthetic. In bed one day. Some pain. No vomiting or fever. Discharged in 20 days. Result, cured.

RUPTURE.

(BREACH OR HERNIA.)

By the term *Hernia*, we mean a tumor, which is formed by the displacements of the intestines, the omentum (covering of the bowels), or both, and which protrudes from the abdominal cavity. The most common varieties are *umbilical*, *inguinal* and

Fig. 1.



femoral hernia. Children are most subject to umbilical, males to inguinal, and females to femoral, hernia.

Causes. These are either *predisposing* or *exciting*. Any thing which occasions general or local muscular debility, as dropsy, pregnancy, abscesses, wounds, obstructions to natural

evacuations, etc., is a predisposing cause of hernia. The exciting cause is pressure applied to the contents of the abdomen, as straining in evacuating the bowels and bladder, lifting heavy weights, or violent physical exertion.

Symptoms. The only characteristic symptom of hernia is the presentation of an elastic, or doughy tumor of variable size, which either gradually or suddenly makes its appearance. There is flatulence, uneasiness, and sometimes pain in the abdomen.

Sharp and dull pains frequently recurring and confined to the locations where ruptures appear should receive attention. Examination will not infrequently reveal a small enlargement. If a hernia, this will usually disappear after a night's rest and may not be again noticed until the next day, or for several days. On coughing, with the finger applied to the enlargement, a sensation of an impulse (succussion), or slight additional protrusion will be felt.

The trouble appears at any time of life. An analysis of seventy thousand cases indicates that it is more common in debilitated persons, and that there is a constant decrease in the frequency of the affection from the first to the thirteenth year, after which rupture is more and more frequently met with as age advances.

Inguinal Hernia (see Fig. 1) is more common than all other forms of rupture. It is more frequently met with in men, and when severe there is usually a mass of intestine which falls into the scrotum and has an evil effect, by pressing upon the testicle. The protrusion follows the spermatic vessels and hence it usually appears low down in the abdomen and on one or both sides of the pubic bone.

Femoral Hernia (see Fig. 1), most common in women of mature life, is felt as a lump below the strong ligament in the groin which forms the line of separation between the thigh and the abdomen. On its outer side and close to it can be felt the beating or pulsation of the large artery of the thigh.

Umbilical Hernia (see Fig. 3) appears at or near the navel and is most common in children. It may be present from birth, or it may result from fretting and crying at any period of childhood.

Sufferers from any form of rupture are constantly subject to

the danger of strangulation. This occurs when, from any cause, the free return of the contents of the protruded part of the intestine is prevented. It is an accident of a serious nature, inasmuch as nearly fifty per cent. die if not carefully operated upon, and with the most skillful treatment, one in four cases terminates in death.

Every individual should guard against rupture by maintaining, by proper exercise, diet, and rest, a condition of vigor and tonicity of the muscular system.

When debilitated, all strains and exertions should be carefully avoided until the health is built up, and the relaxation overcome.

Treatment. The palliative treatment of hernia is by *reduction* and *retention*. Reduction consists in returning the protruding intestine to its proper place through the opening by which it escaped. This is accomplished either by manipulation or by a surgical operation. Retention is effected by wearing a mechanical appliance called a *truss*.

As soon as the tumor protrudes, or the "bowel comes down," the patient should assume the recumbent posture, with his shoulders and feet elevated. The patient or an attendant should grasp the hernia, and with gentle, but gradually increasing pressure upon the tumor attempt to replace it. At the same time let the patient knead the bowels upward by pressing upon the integument, so that the intestine may, as far as possible, be pushed away from the point of protrusion. Sometimes the contraction of the muscular fibres at a point where the hernia makes its exit is so great that the tumor cannot be replaced. In this case the system should be relaxed with lobelia (not given in doses

Fig. 3.



UMBILICAL HERNIA.

Sketched from a case subsequently cured by our new method.

to produce vomiting), and as soon as the patient is thoroughly under its influence, the manipulations may be resumed. When there is any difficulty experienced in putting back the "breach," or rupture, professional assistance should be promptly summoned. After the reduction of the rupture, a truss should be properly adapted, applied, and constantly worn, to prevent the protrusion of the intestine.

Of the latter instruments there are several hundred varieties for sale throughout the country. With the exception of about

Fig. 4.



The above cut fairly illustrates a case of Double Inguinal Hernia, complicated with Hydrocele, cured at the Invalids' Hotel and Surgical Institute.

one-half dozen forms, which embody the true principles of a proper truss, they are, without exception, harmful. Unless proper support be given to the walls of the abdomen, and that without constant pressure, a truss does harm; then, too, the shape of the pad must be such as to avoid pressure where it is not required; otherwise, as in the case where a small ring is worn upon a finger, there is a gradual loss of strength and a depression formed in the healthy tissue, which can be plainly seen and felt. In this way trusses do harm, and such evil consequences may follow the *improper* application of a *good* truss.

Surgical Treatment. When the hernia has become strangulated and cannot be returned by manipulation, a surgical operation is necessary. Whenever the necessity for such a procedure is apparent, it should be performed *immediately*,

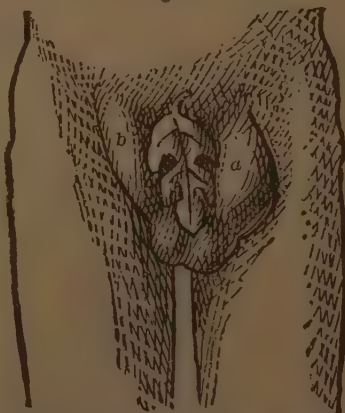
for the greater the delay the greater the liability to fatal results. The operation consists in cutting down upon the strangulated bowel, thus relieving it of its constriction and facilitating its replacement. It is a delicate operation, and must be skilfully performed. After the operation, the patient requires appropriate hygienic treatment.

The Radical Cure. A small percentage of cures will follow the proper use of a good truss, and the advertisements of the so-called rupture cures are founded upon such cases. These impostors pretend that the use of some vaunted salve, ointment, or styptic lotion, applied on the outside, will heal and cure the deep-seated separation of the muscular fibres. The truss in these cases is the curative means in the small number that are relieved, and for it but few dollars should be charged instead of the exorbitant prices demanded by these impostors.

Improvements in surgery in this age of wonders, have kept apace with the advances in electricity and other branches of science. Diseases and deformities which only a few years ago were considered incurable are now overcome and cured with certainty and without risk or suffering. Especially is it true with reference to hernia or rupture.

In the treatment of rupture our aim is to treat all cases that we undertake in such a manner that *by no possibility can the deformity return*. We therefore have for the cure of these cases perfected a method by which, with our local anæsthetic fluid, we are able to perform a surgical operation without any distress whatever to the patient. One of the greatest risks of the old operation for rupture was the danger of general anæsthesia with chloroform or ether, or some similar agent. The great majority of individuals cannot bear the inhalation of the large quantities of these anæsthetics necessary to secure loss of feeling

Fig. 5.



This figure illustrates a Double Inguinal Hernia, of large size, which was permanently cured by our improved method of treatment. The left side (b) shows the *direct* descent of the bowel into the scrotum, while on the right side (a) the rupture is indirect, the bowel descending through the internal ring and inguinal canal.

without consequent nausea, and at times an effect upon the heart, that often results seriously. The risk from the anæsthetic is much greater than from the surgical procedure. By our method, this risk is entirely done away with. The pain dispelling fluid enables our operator to pursue his method **without giving the patient any pain or discomfort whatever.** During the operation the patient is in full possession of all his faculties, and can assist in any way desired by coughing, or straining, in order, at any time, to complete the protrusion of the rupture and show its entire extent of surface when the sac is laid bare. We then replace the rupture completely; suture the sac so that the rupture will have no pocket into which to descend, and then firmly reinforce the rings. By this method they are made stronger and firmer than in their original state.

Early in our experience, and while using the plan of treatment that is usually employed for the radical cure of rupture, we had occasional relapses of the difficulty, but since using our improved method we have had no such trouble. We can assure our patients that there is less risk of the reappearance of the rupture at the point where the operation is performed than there is of a new breach forming. The success of this treatment has been invariable. The plan of treatment that we pursue for the cure of rupture confines the patient to bed for only a short time. There is little or no pain after our treatment, and out of the many hundreds that we have treated and perfectly cured, in no instance have we had any inflammation or serious manifestation—there being no fever or general reaction. It is a matter of great surprise to the patients who undergo our treatment for the radical cure of rupture, that by our method the object is accomplished with so little discomfort and with no pain whatever.

We have so far improved upon the treatment of rupture that we are able to cure all ordinary cases by a method that does not require *ether* or *chloroform*. The treatment is made painless by a local anæsthetic mainly composed of a harmless salt of soluble quinine. A small incision through the skin is commonly all that is required. *By our plan the abdominal cavity is not opened*, so that peritonitis, the

greatest and most painful risk, is avoided. The ruptured tendons are brought together, over-lapped and fastened by insoluble suture so firmly that they adhere at once. The outer wound is usually healed in five days.

From two to three weeks' personal attention of our specialist, is usually all that is required even in the worst cases.

It must be remembered that the groin forms a most difficult part of the body to make surgically clean, and if disease germs get into the wound they invariably inoculate it and suppuration follows. Our preparatory treatment prevents this.

The only conditions of the scrotum which is likely to be confused with hernia or rupture are varicocele and hydrocele. Both hernia and varicocele are usually reduced, or disappear when the patient lies down, hydrocele does not disappear. Hernia can be differentiated from varicocele in that a hernia is retained when the finger is placed over the upper part of the scrotum; at the groin. A varicocele fills from the bottom of the scrotum; a hernia protrudes and comes down from above, and it gives distinct impulse on coughing. Our operation for varicocele is equally successful as that for hernia.

For the successful treatment of Hernia, our patients are not confined to bed more than three or four days following treatment. In the last three thousand cases treated and cured no fever or complication has resulted. They have been uniformly successful and represent an unparalleled series of successful cases not equaled in any hospital in the world.

No truss is needed after our treatment. We consider a case cured only when the patient is able to do without a truss or support in all the usual walks and vocations of life.

The testimonials that we append are but a small number out of the great mass that we have received. A very large percentage of individuals who have been treated by us for rupture desire that their disability be held a matter of sacred confidence and with all such we take pleasure in guarding their confidence with the greatest care. Others are quite willing that their experience may be made public in this manner for the benefit of similiar sufferers.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they now are, coming, as they do, from well known, intelligent and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

HERNIA.

Operation: Local Anaesthetic. Recovery Rapid.

DR. V. M. PIERCE, PRESIDENT INVALIDS' HOTEL, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I take pleasure in writing to you in regard to my condition and will state that I am feeling fine and working every day. After suffering from hernia on the left side for a number of months, I heard of Dr. Pierce's Invalids' Hotel and Surgical Institute and decided to go there for treatment. I was examined by your Specialists who pronounced my case direct hernia—left side—and advised an operation to which I submitted, and which was done under a local anaesthetic. I suffered practically none during the operation and my recovery was uneventful and rapid.



MR. TROMMATER.

and the treatment that I received there will always prompt me to speak a good word for you. I will gladly interview or write any one concerning my cure and your kind and easy treatment.

Yours very sincerely,

EARL TROMMATER.

RUPTURE**Suffered from Rupture for Sixteen Years.**

INVALIDS' HOTEL AND SURGICAL INSTITUTE,
Buffalo, N. Y.



MR. HINERMAN.

Gentlemen—I suffered from a rupture for over sixteen years and tried all kinds of trusses without any effect. I paid out more for *them* than the operation at your Institution cost me, and I was getting worse all the time. I could hardly walk by spells, so I concluded to be operated upon. I went to your Invalids' Hotel and was examined and from what your physicians told me, all fear left me and I was operated upon on the 14th day of March without taking an anæsthesia. I talked to the doctor all the time I was on the operating table. I pulled through all right and came home on the first day of April, wound all healed, and after four months I felt no weakness whatever from the operation. Today I can walk as good as ever. I was 71 years old when the operation took place. I would not suffer again one week after knowing what kind treatment one gets at your Institution and what your operation will do.

Respectfully yours,

J. T. HINERMAN.

RUPTURE—LEFT SIDE.

INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen—For years I had a bad rupture on the left side. I tried all kinds of trusses but they did me no good. Then I went to the Invalids' Hotel in Buffalo and had an operation. There was no fussing around getting me ready for the operation. I was in bed for two days, and then was up walking around with the rest of the people. I had all I could eat before, and after, the operation. I walked into the operating room at 12 o'clock, and at 12:30 the operation was over and I was talking to the surgeon and the nurse all the time. I got off the operating table and walked out of the room, and never felt the least bit of pain. I stayed at the hospital for twenty-one days and the doctors, nurses and all were very kind. One would think he was on his holidays instead of being there for an operation. The operation was in October, 1910 and I have done all kinds of heavy lifting since and the rupture never came back; it was a "first-class job." I advise any one who has a rupture to go to the Invalids' Hotel, if he wants a cure without any pain, the best of treatment, and a good time.

Very truly yours,

JACK WALTERHOUSE.

RUPTURE OF TWENTY YEARS' STANDING.

INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen—I was ruptured on my right side twenty years ago and at that time I consulted a local physician. He told me to wear a truss and leave good-enough alone. I wore different makes of trusses but they all tortured me until it became almost unbearable. I finally decided to go to the Invalids' Hotel and Surgical Institute for a radical cure, which I surely got when I was operated on by one of your eminent specialists. I talked with the doctor and the nurse during the operation. Did not feel any pain and was in bed only four days. I was discharged from the hospital in one month—came home, took care of myself a few weeks, and went to doing all the hard work a farmer usually does. The place of the operation holds like welded links. Many thanks to the surgeon, also to the kind nurses and all connected with the Invalids' Hotel. Everything seems like sunshine in this wonderful Institution. I cannot speak too highly of the place and the way that patients are cared for.

Yours respectfully,

S. S. KLINE.



MR. KLINE.

LOCOMOTIVE ENGINEER GIVES HIS EXPERIENCE.

Never Had Any Trouble Since His Treatment at the Surgical Institute, Although, from the Nature of His Occupation, Subject to Sudden Strains and Constant Jarring.



C. S. RINGER, Esq.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen — This is to certify that you have cured me, by a method that was entirely safe and comparatively comfortable, of a rupture that had troubled me for a long time. From the nature of my work, as a locomotive engineer, was very seriously affected by this physical disability. The heat of the locomotive made the truss chafe so as to be very unpleasant. I am glad to be able to go without it.

I am gratified to say that my cure is entirely perfect, and I take pleasure in recommending others to your Institution for a cure.

With thanks and good wishes, I am,

Very truly yours,

CHAS. S. RINGER.

HERNIA OF NINE YEARS' DURATION.

Entirely Well in Less than Three Weeks.

FACULTY INVALIDS' HOTEL, Buffalo, N. Y.

Gentlemen :— On the eighteenth day of May, over a year ago, in your Institution, I was operated for hernia. The hernia was of over nine years' duration. I tried several kinds of trusses but none would hold the rupture. I was discouraged and decided to go to your Institution. I was perfectly conscious during the operation and the pain was not sufficient to mention. In less than three weeks I was entirely well and left for home. While there I received the kindest of care from every one connected with the Institution.

My weight has increased several pounds since the operation and I never felt better in my life than at the present time. I have recommended your Institution and methods several times and will continue to do so.

You have my most sincere gratitude for the skilful operation and the good care received in the Invalids' Hotel while I was there.

With many good wishes for your success, I am,

Very truly yours,

JOHN MACK.

"LIFE IS WORTH LIVING."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen — It affords me pleasure to say that in January I was operated on at your Institute for scrotal hernia; that the same was painless and a success; and that since then life is worth living. I was sixty-three years old at the time. The treatment, board, room, etc., were entirely satisfactory.

Very respectfully,

H. C. VAN DEUSEN.

H. C. VAN DEUSEN, Esq.



RUPTURE. PAINLESS OPERATION. "CAN STAND MORE WORK AT FIFTY-EIGHT."



J. CLARK, Esq.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—Words could not do justice to my feelings for the benefit I received at your Institution. I was operated upon for rupture on the 5th of November, and had only to stay in bed two days—returning home in two weeks. I am sound as a dollar. I have not had a pain since I came home one year ago. The operation was without pain at all. I can recommend any one suffering with chronic disease to go to Dr. Pierce's Invalids' Hotel at Buffalo, N. Y., for treatment. I was ruptured for fifteen years and had tried many doctors, including a specialist in Pittsburg, but got no relief. I feel better now than I have for fifty-eight years, and can stand more work.

Respectfully yours, JEREMIAH CLARK.

P. S.—If any sufferer wants to write me I will answer all questions freely. J. C.

HERNIA CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—Your favor received and found that you would like to have me give you a testimony of my case. I will say in reply that I was treated at the Invalids' Hotel and Surgical Institute, for Hernia on the left side. It was not large but it gave me severe pain while working. I wore a truss but it did not relieve the pain very much. I read in the paper one night your advertisement and a week after I started for the Invalids' Hotel and took the treatment for rupture and went home sound and happy, like a new man, and I can work harder than ever and can assure any one interested that it is no humbug.

With the best wishes,

JOHN H. RIEMER.

P. S.—If any one would like to inquire about my case I will inform them about it, if they enclose return stamped and addressed envelope for reply. J. H. R.



J. H. RIEMER, Esq.

TRUSS DISPENSED WITH. CURE PERMANENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am very happy to inform you that the rupture for which you operated on me three years ago has remained permanently cured as result of treatment. I have not worn a truss but for a few weeks after leaving your Institution, and am able to do anything necessary without any discomfort whatever. In fact, I think the side treated is stronger than the one which has never been affected with rupture.

Your treatment, which was without any chloroform or ether anaesthesia, was entirely satisfactory. The pain was not noticeable and gave me no trouble whatever. Following the operation I noticed but little soreness, and in a few days was around well as ever. I believe I spent but one afternoon and night in bed following the operation and have enjoyed good health ever since.

You have my kindest wishes and thanks for the satisfactory cure that resulted. I am now in business, and will be pleased to answer any letters that may be sent from individuals who may desire to make inquiries regarding your cure of rupture—which I can recommend in the highest terms.

Very truly yours,

WILLIAM SHEURER.



W. SHEURER, Esq.

recommnd in the highest terms.



B. B. BARRER, ESQ.

HERNIA FOR EIGHTEEN YEARS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

Gentlemen—Having been operated on at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for hernia, it gives me pleasure to certify to a marvelous cure. The operation was made painless by an injection of fluid, making the parts insensible. My case will be remembered as being an inguinal hernia of the right side, sufficient to extend into the scrotum, of about eighteen years' duration, and from early childhood. I consider my cure permanent and would advise all afflicted as I was to avail themselves of the skill of this grand old Institution.

Yours truly,

B. B. BARBER.

HERNIA FOR FIFTEEN YEARS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Undoubtedly you receive so many expressions of gratitude and satisfaction from former patients that you will look upon the following as acceptable but wholly unnecessary. I am not writing this hastily, without allowing your operation upon myself full time to prove permanent success.

Fifteen years prior to May 7, 1913, I developed what is known as a hernia. Three years later I became a railroad worker, and for the following twelve years I stood the physical and mental pain of an enlarging hernia which continually became more terrible to withstand. May 7, 1913, I entered your Invalids' Hotel and Surgical Institute for treatment, feeling you could help me if such was possible. The next day one of your Specialists operated upon me, using only local anæsthetic, I being wholly conscious and watching the operation. That your methods are unquestionably modern was demonstrated by the lack of vomiting and convulsions which attend the use of chloroform, all of which I escaped. Two days after the operation I was on my feet and walked; thirty days after the operation I was back at my occupation, and haven't had the slightest trouble from hernia since. I advise all who may be suffering as I was to go to Dr. Pierce's and be cured.

I consider this action on my part a duty to your Institution and to those who may be suffering as I was. You are at liberty to use this letter in any way you may see fit. Should its authenticity ever be questioned by anyone, I shall be only too pleased to meet the skeptical ones and personally dispel their doubt. I am,

Gratefully yours,

EDWARD FOLEY.

CURE HAS BEEN PERMANENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

No. 665 Main Street, Buffalo, N. Y.

Dear Sirs:—It has long been my desire to make a statement of my cure of rupture for the benefit of all those persons who are now suffering in like manner. I had a rupture that could not be held up with a truss. I tried a great many trusses but could get none to hold it. The rupture would come down constantly when at farm work and give me great pain. I was cured at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., by a treatment that is safe and certain. My cure has been permanent, although I have worked right along. I have built a house this last summer, handled logs and some very heavy stone for foundation. I have used no truss since I came home. I take pleasure in highly recommending the Institute to all the afflicted. I feel confident that all the benefit to be derived from medical or surgical treatment is to be received at the Invalids' Hotel and Surgical Institute.

Yours respectfully,

LORIN A. DEARDORFF.



MR. L. A. DEARDORFF.

RUPTURE.**Grateful Patient Says, "Now Solid as a Rock."**

MR. KELLS.

INVALIDS' HOTEL AND SURGICAL INSTITUTE,
665 Main Street, Buffalo, N. Y.

Gentlemen:—I ruptured myself and wore a truss for almost two years. I am sorry to say so, but I did not know any better until I met a friend who had been cured at your Institution. He advised me to let you know my troubles. I did so, and you shall always have my hearty thanks for what you have done for me.

Now a word to those who do not know the dangers of truss wearing and to those who are skeptical, let me say, be a good fellow to yourself and go to Dr. Pierce's Invalids' Hotel and Surgical Institute, throw away your truss and be cured of your rupture.

Once more, gentlemen, let me thank you, for the rupture is healed up "solid as a rock."

Sincerely yours,

ALLEN KELLS.

HERNIA, RIGHT SIDE, OF 24 YEARS' STANDING — CURED.

DR. PIERCE'S INVALIDS' HOTEL, 665 Main St., Buffalo, N. Y.

Gentlemen:—In the hope that some sufferer from hernia may be induced to try your improved method of curing that disease, I send you this certificate containing a synopsis of my case and the cure of the same. My life was a living death for 24 years. I had almost lost hope of ever being cured and was plunged into despair as I had tried so many trusses, appliances and remedies, each one a failure. In the year 1898 while I was in the army in Cuba, I jumped out of a freight car and got a hernia on the right side. I began wearing a truss but the hernia kept getting worse, no matter what I tried. Towards the last it was so bad that I could hardly make a move that it would not come out so I would have to lie on my back and work for an hour or more to get it back. I had two strangulations and had to be chloroformed by a doctor, the pain was so bad that I could not stand it. The doctors told me that an operation would be the only hope, and then it would be doubtful, as the hernia was of so long standing and so large that it would probably come back again. I was always worried and in dread of an operation. Finally I got the nerve and took a chance. In January, 1922, I went to your Invalids' Hotel, and I must say that it was a god-send to me, as I am like a new born. I was discharged from your Institution in 20 days a well and sound man. Only from memory and the record do I know that I was ever ruptured. I have at times since performed some of the hardest kinds of work for long periods but no sign of weakness has ever reappeared. I do not consider the operation as performed by you, attended with any danger, there is no comparison to the chances a person takes who, in the daily walks of life, is tortured with a rupture.

While a patient in your Institution I was accorded the kindest and most considerate treatment from all members of your Staff and all employes with whom I came in contact. I consider the appointments and cuisine of the establishment perfect.

I will cheerfully answer any communication from any sufferer who may be interested in my case. I am,

Sincerely yours,



MR. ROEDER.

ANTHONY ROEDER.

HERNIA AND VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 665 Main Street, Buffalo, N. Y.



H. D. LUTE, Esq.

Gentlemen:— For perhaps fifteen years I was afflicted with a bad case of hernia that often gave me much trouble and pain. Later a case of varicocele developed. In February I went to the Invalids' Hotel, 665 Main St., Buffalo, N. Y., for treatment. My case was placed in the hands of your surgeon-specialist who performed the operation in very good shape and manner. During my stay of a few weeks I found the doctors, nurses and all attendants competent, courteous and ever ready to please.

After three years, during which time I have ridden horse-back, pitched hay, and done such other work as is usual on a stock ranch I have had no recurrence of the troubles.

I have several times recommended your Institution to sufferers, and can conscientiously do so.

Yours very truly,

H. D. LUTE.

HERNIA CURED WITHOUT PAIN.

DR. V. M. PIERCE, PRES. INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Dear Sir:— I suffered from a hernia for five years and was unable to work without pain or ride where there was the least jar. I tried several rupture appliances but received no relief.

I learned from the "People's Common Sense Medical Adviser" of your cure for hernia and on April 27, 1921, I had a painless operation at the Invalids' Hotel and Surgical Institute and was entirely cured. I have been able to go about my work without any trouble since.

Yours truly,

G. B. SAXTON.

HERNIA OF NINE YEARS' STANDING CURED IN 20 DAYS.

Today, "Sound as a Dollar."

INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Dear Sirs:— You must pardon me for not writing sooner to let you know how glad I am for having gone to your Institution to be cured of a hernia of nine years' standing. During those years of suffering, I tried various kinds of trusses and treatments but became worse instead of better. The only relief I got was when I went to the Institution that knows how to permanently cure one of such an ailment. I congratulate myself on having gone to the Invalids' Hotel. I was permanently cured of my rupture in twenty days. Today I am as sound as a dollar. By the skilful surgery and the faithful attendance of the nurses, I was made a well man again. I am a clerk in a warehouse for the Pennsylvania Railroad. I was afterward examined by their physicians and they pronounced it a good job and I went to work. From that day to the date of this letter I have not lost a day. Before I was operated on I weighed 135 pounds and from then on I gained until I now weigh 156 pounds.

You surely have my most sincere gratitude for the skilful operation and the good care by the faithful nurses, also for the good meals enjoyed while there. I can recommend your physicians and nurses most highly and would advise any one suffering from hernia to go to Dr. Pierce's Invalids' Hotel.

Yours sincerely,

MR. KLINE.



IRA A. KLINE.

DOUBLE RUPTURE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with much pleasure that I write you this testimonial of the wonderful cures you have performed for me.

In the year 1883, I became ruptured on the *left* side. I immediately wrote you (having heard of your fame in curing all kinds of diseases) for your terms of treatment which I received by return mail, you also stating you were positive you could cure me. Through unavoidable circumstances I was unable to come to your Institution until December, 1886. During this time I had tried wearing a truss, which only made it worse, and very much aggravated my complaint as it was impossible to hold the rupture in its place. However I arrived at the Invalids' Hotel on December 8th, 1886. On being examined by one of your staff, I was pronounced a bad case, but by your mode of treatment you could cure it. I was therefore, operated upon by one of your specialists, without any cutting however and comparatively little pain, by your scientific method, and in thirty days returned home cured. The time I had to remain there, I believe, was much longer than most persons treated for the same complaint.



D. HARTLEY, Esq.

Since then I have worked very hard sometimes (my occupation being that of a farmer,) so much so that I became ruptured on the *right* side three years ago,—the other side remaining perfectly sound without any protection. I considered myself very unfortunate in being in this position again, fortunate in knowing where to go for relief, and very soon was back in your Institution where I was successfully treated and perfectly cured and am to-day a sound man and able to do any kind of work on my farm.

I write this testimonial for the sake of suffering humanity, and wish you to use it in any way that the greatest number of persons may read it. As for myself, I would not be in the condition I once was and not know of your Institution for all I could see. I not only recommend your Institution for the complaint of which I was cured but for all chronic diseases or anything requiring a skillful surgical operation, believing your Staff of Physicians and Surgeons to be second to none anywhere. Your nurses and attendants, and every accommodation, also, being all that is necessary to make your Institution everything that its name implies—a complete Invalids' Hotel and Surgical Institute.

Respectfully yours,

DAVID HARTLEY.

P. S.—I have also received much benefit from taking your "Golden Medical Discovery" for dyspepsia and liver complaint, and being broken down generally. A few bottles worked wonders, and I have been well ever since, and that was quite a number of years ago.

D. H.

RUPTURE.

A Grateful Patient's Words of Praise.

"SOUND AS A DOLLAR."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Am greatly pleased to report that the operation for the radical cure for rupture received at your Institution in May, 1889, has proved entirely successful. I am sound as a dollar. My case was an extremely troublesome and dangerous one. Many times I required the assistance of a surgeon to reduce it. No truss would hold it a whole day. My two weeks' stay with you was worth thousands of dollars to me. Will gladly answer any inquiry and would advise any one suffering from hernia to take the radical cure.

Very truly yours,

B. F. HOOK.



B. F. Hook, Esq.

Series II. No. 8427. Hernia, Right Inguinal.

Mr. A. A., Salina, Iowa. H. R. 2G-98. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed well. Discharged in 16 days. Result, first-class.

"Your method of curing rupture is a success in my case, and I take pleasure in highly recommending your Institution. It is well fitted in all respects for high-class work."

Series II. No. 8354. Hernia, Left Inguinal.

Mr. W. S., Louisville, Ky. H. R. 2K-82. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed nicely. Discharged in 30 days. Result, cured.

"I am happy to inform you that the rupture for which you operated on me has remained permanently cured. In fact, I think the side treated is stronger than the one which has never been affected with rupture."

Series II. No. 8367. Hernia, Right Side.

Mr. A. B., Nashua, N. H. H. R. 2K-190. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed firm and good. Discharged in 20 days. Result, cured.

"I cannot say too much for the Invalids' Hotel at Buffalo. The care and kind attention which I received there will always be remembered."

Series II. No. 8314. Hernia, Right Side.

Mr. F. T., Sherman, Wash. H. R. 2L-2. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound nicely healed. Discharged in 30 days. Result, cured.

"I am a pretty good walking advertisement for your Institution as all my friends remark how well I am looking."

Series II. No. 8318. Right Inguinal Hernia.

Mr. H. S., Barrington, Pa. H. R. 2L-45. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 30 days. Result, cured.

"It is almost three years since I was with you for treatment and I have never regretted it. My rupture is all right and it is a great relief to go without a support."

Series II. No. 8327. Hernia on Left Side.

Miss M., Spokane, Wash. H. R. 2L-98. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed perfectly. Discharged in 20 days. Result, cured.

"I am enjoying most perfect health and happy in my missionary work. I often think of you and feel so thankful for what you done for me and often ask God to bless you."

Series II. No. 8333. Hernia, Right Side.

Mr. W. G., Washington, D. C. H. R. 2L-124. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed nicely by first intention. Discharged in 20 days. Result, cured.

"The operation was admirably performed and I feel very grateful for it. I appreciate not only your skill but your great kindness and tenderness in its exercise."

Series II. No. 8294. Left Hernia.

Mr. W. B., Pocatello, Idaho. H. R. 2M-56. Local anaesthetic. In bed three days. Moderate pain. No vomiting or fever. First dressing on fifth day. Primary union. Discharged in 20 days. Result, cured.

"Our doctors here are more than surprised to hear that I had an operation for Hernia and went to work in just twenty-five days after; and I have worked every day since. They think it perfectly wonderful."

Series II. No. 8269. Hernia.

Mr. B., Thomasville, Colo. Record in book 2M-page 184. 2A-3085. Local anaesthetic. In bed one day. No pain, vomiting or fever. Healed well. Discharged in 12 days. Result, cured.

"My rupture never returned. I am just as well as I ever was in my life and wish to thank you for the kind treatment I received while at your Hospital. I can only say that any one suffering from rupture cannot do better than go to the Invalids' Hotel for a sure cure."

Series II. No. 8212. Double Inguinal Hernia.

Mr. F., Josseland, Texas. H. R. 26-9. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds healed well. Discharged in 30 days. Result, cured.

Series II. No. 8225. Double Inguinal Indirect Hernia.

Mr. M., Simons, Ohio. H. R. 36-193. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds in good condition. Discharged in 30 days. Result, cured.

Series II. No. 8250. Omental Hernia.

Mr. B., Suedberg, Pa. H. R. 50-169. Local anaesthetic. In bed three days. Little pain. No vomiting, or fever. First dressing on fifth day. Wound nicely healed. Discharged in 20 days. Result, cured.

Series II. No. 8255. Double Inguinal Congenital Hernia.

Mr. D., Salem, Nebr. H. R. 2B-195. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds healed. Discharged in 30 days. Result, cured.

Series II. No. 8288. Double Hernia.

Mr. B., Staunton, Va. H. R. 2D-49. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on third day. Wounds healed by first intention. Discharged in 20 days. Result, cured.

Series II. No. 8278. Omental Right-oblique Inguinal Hernia.

Mr. B., Chagrin Falls, Ohio. H. R. 2F-50. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed. Discharged in 30 days. Result, general improvement.

Series II. No. 8304. Double Oblique Hernia.

Mr. G., Greenwich, N. Y. H. R. 2G-78. Local anaesthetic. In bed three days. Slight nausea. Some pain. First dressing on fifth day. Wounds healed—doing fine. Discharged in 30 days. Result, cured.

Series II. No. 8293. Double Hernia.

Mr. H., Winchester, N. H. H. R. 2H-118. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds in good condition. Discharged in 30 days. Result, cured.

Series II. No. 8340. Double Inguinal Hernia.

Mr. C., Butte, Mont. H. R. 2H-133. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds in excellent condition. Discharged in 30 days. Result, cured.

Series II. No. 8322. Double Hernia.

Mr. L., Little Falls, N. Y. H. R. 2J-133. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds nicely healed. Discharged in 30 days. Result, cured.

Series II. No. 8363. Double Hernia.

Mr. R., Memphis, Tenn. H. R. 2K-155. Local anaesthetic. In bed three days. Some pain. No vomiting or fever. First dressing on fifth day. Wounds healing slowly. Discharged in 40 days. Result, good.

Series II. No. 8411. Umbilical Hernia.

Mrs. C. K., Eaton, Kans. H. R. 2L-76. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed nicely. Discharged in 30 days. Result, cured.

Series II. No. 8407. Double Hernia.

Mr. S., Lucesco, Pa. H. R. 2L-182. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wounds nicely healed. Discharged in 20 days. Result, cured.

Series II. No. 8426. Double Hernia.

Mr. K., Sterling, Ills. H. R. 2M-55. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Union by first intention. Discharged in 30 days. Result, perfect cure.

Series II. No. 8512. Double Inguinal Hernia.

Mrs. C. E., Niagara Falls, N. Y. H. R. 2P-4. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed nicely. Discharged in 15 days. Result, cured.

Series II. No. 8536. Double Inguinal Hernia.

Mr. D., Sedro Woolley, Wash. H. R. 2Q-171. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Wound healed. Discharged in 45 days. Result, cured.

Series II. No. 8553. Double Hernia. Cyst of Cord.

Mr. C., Walla Walla, Wash. H. R. 2R-11. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Both wounds healing nicely. Discharged in 30 days. Result, cured.

Series II. No. 8346. Hernia.

Mr. H., Tallman, Mich. Record in book 2S-page 23. 2B-719. Local anaesthetic. In bed one day. No pain, vomiting or fever. First dressing on third day. Discharged in 15 days. Result, cured.

Series II. No. 8347. Hernia.

Mr. McR., Goderich, Ont. Record in book 2S-page 47. 2B-788. Local anaesthetic. In bed one day. Slight pain. No vomiting or fever. First dressing on third day. Discharged in 12 days. Result, cured.

Series II. No. 8348. Hernia.

Mr. O., Grand Junction, Colo. Record in book 2S-page 54. 2B-804. Local anaesthetic. In bed three days. Some pain. No vomiting or fever. First dressing on third day. Result, improved.

Series II. No. 8349. Hernia.

Mr. N., Paris, Texas. Record in book 2S-page 58. 2B-808. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on third day. Wound healed. Discharged in 10 days. Result, cured.

Series II. No. 8350. Hernia.

Mr. H., Niles, Ohio. Record in book 2S-page 77. 2B-275. Local anaesthetic. In bed three days. Some pain. No vomiting or fever. First dressing on second day. Primary union. Discharged in 12 days. Result, cured.

CURED WITHOUT PAIN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



A. ANDERSON, ESQ.

with rupture and other
of the Invalids' Hotel.

Gentlemen—Your method of curing rupture has been a success in my case, and I take pleasure in highly recommending your Institution. I have had opportunity to become well acquainted with your work, and have always advised my personal friends to rely upon you.

Your Invalids' Hotel is well fitted in all respects for the high-class work that you do. The physicians and nurses are all skillful, friendly and considerate. It is a great comfort to have surgical operations done so nicely, without pain and without the use of chloroform or ether. I knew all about the operation, was fully conscious, but did not suffer. All the patients I met while in your place from the various states of the Union, were very much pleased and were getting well. To all sufferers chronic difficulties I would say, consult the Faculty

Very truly yours,

ANDREW ANDERSON.

Series XXIII. No. 8406. Hernia.

Mr. Van D., Michigan City, Ind. Record in book 23AM-page 48. 23B-1733. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fourth day. Perfect primary union. Discharged in 20 days. Result, cured.

"I was operated on at your Institute for scrotal hernia; the operation was painless and a success; since then life is worth living."

Series XXIII. No. 8408. Hernia.

Mr. R., Rockhill, S. C. Record in book 23AM-page 82. 23B-1773. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on sixth day. Wound showed perfect union. Discharged in 20 days. Result, cured.

"After this long time I still have no return of the rupture. It is a great comfort to have operations done so nicely without pain and without the use of chloroform. I heartily recommend your Invalids' Hotel to all sufferers."

Series XXIII. No. 8409. Hernia and Varicocele.

Mr. C., DeRuyter, N. Y. Record in book 23AM-page 121. 23B-1819. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fourth day. Primary union. Discharged in 27 days. Result, cured.

Series XXIII. No. 8410. Hernia and Irritation of Urethra.

Mr. L., Rico, Colo. Record in book 23AM-page 153. 23B-1857. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fourth day. Wound entirely healed. Discharged in 30 days. Result, cured.

Series XXIII. No. 8411. Hernia.

Mr. T., Oakland, Calif. Record in book 23AN-page 32. 23B-1968. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Perfect union. Discharged in 12 days. Result, cured.

"The operation for rupture was successful."

Series XXIII. No. 8412. Hernia.

Mr. L., Beverly, Mass. Record in book 23AN-page 37. 23B-1975. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Union complete. Discharged in 20 days. Result, cured.

Series XXIII. No. 8413. Hernia and Varicocele.

Mr. H., Albany, Tex. Record in book 23AN-page 54. 23B-2001. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fourth day. Primary union. Discharged in 20 days. Result, fine.

Series XXIII. No. 8414. Hernia.

Mr. B., St. Thomas, Ont. Record in book 23AN-page 128. 23B-2095. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 15 days. Result, cured.

Series XXIII. No. 8415. Hernia.

Mr. M., Dromore, Ont. Record in book 23AP-page 21. 23B-2352. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Healed by first intention. Discharged in 12 days. Result, cured.

Series XXIII. No. 8416. Hernia.

Mr. D., Brooklyn, N. Y. Record in book 23AP-page 31. 23B-2361. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Healed by first intention. Discharged in 14 days. Result, cured.

Series XXIII. No. 8417. Hernia.

Mr. M., Walkerton, Ind. Record in book 23AP-page 95. 23B-2561. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 12 days. Result, cured.

Series XXIII. No. 8418. Femoral Hernia.

Mrs. S., Sharon, Pa. Record in book 23AP-page 142. 23B-2629. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on third day. Primary union. Discharged in 12 days. Result, cured.

Series XXIII. No. 8419. Hernia and Varicocele.

Mr. G., Noank, Conn. Record in book 23AP-page 190. 23B-2700. Local anaesthetic. In bed three days. Some pain. No vomiting or fever. First dressing on fifth day. Wound healed by perfect union. Discharged in 20 days. Result, cured.

"I am well pleased with your surgical work."

Series XXIII. No. 8420. Hernia.

Mr. R., Wentworth, N. H. Record in book 23AQ-page 92. 23B-2818. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Union by first intention. Discharged in 12 days. Result, cured.

Series XXIII. No. 8421. Hernia.

Mr. S., Story, Nebr. Record in book 23AQ-page 180. 23B-2824. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 20 days. Result, cured.

"Since my operation for hernia I have not been troubled at all. The treatment I received was all anyone could expect and the table was first class—equal to the best hotels."

Series XXIII. No. 8422. Hernia.

Mr. S., Wigham, Ont. Record in book 23AR-page 167. 23B-3194. Local anaesthetic. In bed three days. No pain, vomiting or fever. First dressing on fifth day. Primary union. Discharged in 20 days. Result, cured.

Series XXIII. No. 8423. Hernia.

Rev. S., Headsville, W. Va. Record in book 23AS-page 134. 23B-3421. Local anaesthetic. In bed three days. Considerable pain. No vomiting or fever. First dressing on fifth day. Union by first intention. Discharged in 14 days. Result, cured.

PAINLESS OPERATION. HERNIA, COMPLICATED WITH VARICOCELE AND HYDROCELE.

Completely and permanently cured without
any unusual symptoms.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Considering the great benefits derived from treatment received at your Institution at the hands of your Specialists (the very best to be found), and well trained, competent and sympathetic nurses, I feel that I have been very tardy in showing my appreciation.

I want to say to the world, that after more than twenty years of suffering, I was operated on in your Institution for rupture, varicocele and hydrocele, without the use of narcotics, chloroform or ether, and with a full knowledge of what was taking place, each operation proving successful and practically painless.

To all suffering with troubles similar to mine I heartily recommend the Invalids' Hotel as the place to go for painless operations and fair and square treatment. I thank God for the Guiding Hand that directed me to your Institution and will never cease to thank you for the relief obtained.

With best wishes, I am,

Yours truly,

JAMES L. DAVIS.



J. L. DAVIS, ESQ.

treatment. I thank God for the Guiding Hand that directed me to your Institution and will never cease to thank you for the relief obtained.

HERNIA FOR TWENTY-SEVEN YEARS.**Permanently Cured in Two Weeks.****DOCTOR PIERCE, Buffalo, N. Y.:**

Dear Sir—Concerning your Institution as a place for establishing cures for various diseases which are kindred to mankind and which are beyond the power of local physicians, I am exceedingly glad for this opportunity to express my opinion.

I wish to say that in the summer of 1905 I was successfully operated upon for breach or rupture at your Institute and in two weeks was able to return home permanently cured of this aggravating trouble of twenty-seven years' standing—from childhood, and to-day I am able for the first time in my life to assume one of the ordinary occupations of life without suffering any pain. I most certainly advise those suffering from this malady to avail themselves of this opportunity of obtaining permanent relief. The operation was attended with very little pain and in two days I was able to take my meals in the dining-room where I formed the acquaintance of several other patients who had come from different states, such as Texas, California, Colorado, Montana and several others, to place themselves under your care, and they all spoke in the highest terms of your skill, integrity and honesty.

In regard to the hospitality at your Institute I can say I never felt so much at home in any place in my life, and to tell the truth when the time came for me to go home I was sorry to leave because it seemed that I was leaving my own relatives.

Very truly yours,

WM. WOOSTER.

IRREDUCIBLE HERNIA**Present from Boyhood—Protrusion of Enormous Size.****WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:**

Gentlemen—I take pleasure in reporting that I have not worn the truss for a long period, and that I have been working steadily at my business of binding and printing, running a large establishment for over four years, without any trouble whatever from the rupture. It has remained permanently and perfectly cured. You will remember my case as a most severe one. I am a man of sixty years of age, and the disease had been the source of serious discomfort to me since childhood. The protrusion was the size of a man's head, and could not be replaced. I was forced to give up all exercise, and suffered much at my daily work from inconvenience and pain. Any injury upon the protrusion, which could not always be protected, was followed with much discomfort, and my general health was seriously affected. The passage of the blood through the confined intestines was a painful process often times, and kept me in great misery. I am thankful to state that since your operation the rupture has remained sound and well, and I have been relieved of all difficulty of the kind. I now enjoy excellent health, and am at my business daily from twelve to sixteen hours, and on my feet constantly, yet without any manifestations whatever of the re-appearance of the rupture. You have my most sincere gratitude for the skillful operation and the good care received in your Institution while there. I can recommend your nurses and physicians most highly, and think your Institution is unequalled in this country. With many good wishes, I am,

Very truly yours,

DANIEL NITSCHKE.

**D. NITSCHKE, Esq.**

VERY BAD RUPTURE.**"Suffered Almost Agonies for Twenty Years."**

H. G. SENSENEY, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663
Main Street Buffalo, N. Y.:

Gentlemen—On the 22d of last August (1894) I visited your Institute for the purpose of being operated on for a very bad rupture from which I had suffered almost agonies for twenty years. I was operated on a week later. I was in bed only two days, and on the 20th of the next month returned home a sound man: My occupation is that of locomotive engineer which is very hard and heavy work. I can recommend your treatment as safe and painless and can say that any one visiting your place will certainly enjoy themselves while being cured.

Very truly yours

H. GREENLEE SENSENEY.

Reports Thirteen Years After:

I have never had a return of the hernia and believe the operation performed by you to be a permanent cure. I have had some inquiries as to my cure and have always recommended your Institution as the place to go to if one needed such an operation.

With kindest regards,

H. G. S.

RUPTURED TWO YEARS.

DOCTOR PIERCE, Buffalo, N. Y.:

Dear Sir—I have been successfully treated at your Institution for a rupture that bothered me for two years so that I could not do hard work. Now I can do as much work as any man. You have my kindest thanks for the cure you gave me and for the kindness of the nurses.

Yours very truly,

ARTHUR L. MURPHY.

RUPTURED BY HEAVY LIFTING.**Cure is Permanent.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663
Main Street, Buffalo, N. Y.:

Gentlemen—About eight years ago, when run down and weak from sickness incident to "change of life" I was ruptured by heavy lifting. Was in a very precarious condition and my life was despaired of. I continued in this condition for eight months, then sought the aid of the physicians at your Surgical Institute. I was soon entirely cured, and recovered health and strength. As I have not the least symptom of a return of the trouble, I am confident that the cure is permanent. I cannot express my deep appreciation of, and gratitude to the skill of the physicians at Dr. Pierce's Surgical Institute.



MRS. HEDLER.

Respectfully yours,

MRS. DOROTHY FREDRICA HEDLER.

RUPTURE, CYSTITIS, VARICOCELE.**Given Up as Incurable.**

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main Street, Buffalo, N. Y.



MR. WEEKS.

Gentlemen—For two years I was ruptured on the right side and had inflammation of the bladder very bad. During this time varicocele developed on the left side. I also had a bad case of catarrh. I, as well as my doctor, had given up my case as incurable when I placed myself under your care. I had the operations for rupture and varicocele done the same day in a short time. The operations were painless and I was only in bed from noon the day I was operated upon until evening of the following day when I was able to sit up, and from that time my health improved until it was completely restored. The treatment and operations were a complete success.

During my stay at your Institution I enjoyed myself, had every accommodation I wished and found every one kind and obliging at all times. Words cannot express my thanks to your doctors and nurses.

Gratefully yours,

O. A. WEEKS.

DOUBLE RUPTURE.**Caused by Horseback Riding.**

INVALIDS' HOTEL AND SURGICAL INSTITUTE, Buffalo, N. Y.

Gentlemen—I had double rupture for ten years, caused by horseback riding. The trouble kept growing worse until finally no truss would hold them. I went to the Invalids' Hotel and Surgical Institute and was operated on there April 6, 1917. The operation was painless, performed without chloroform or ether, and I talked to the surgeon while he was operating. I was up in five days and left the hospital in three weeks, entirely cured. I am all right now, a new man. It is a great relief to me to go without a truss.

I would advise any one troubled with rupture to go to your Surgical Institute to be operated on. The hospital is very nice and the care and treatment received are the very best to be had anywhere.

Yours truly,

FLOYD S. HOLL.



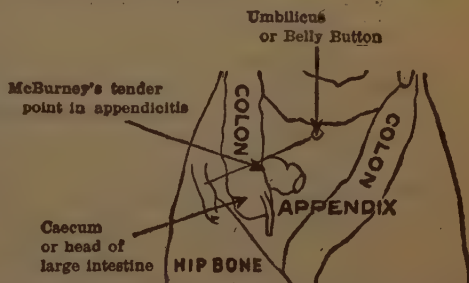
MR. HOLL.

APPENDICITIS (ACUTE AND CHRONIC)

Symptoms. The first symptoms are usually of pain low down in the right side of the abdomen, just above the level of the hip-joint. It may be all over the abdomen at first, and later center over the appendix. A severe, acute attack may be associated with nausea, vomiting and frequently constipation.

Tenderness is felt low down in the right side, and sometimes associated with fever. The pain is at first colicky and sharp, although it may be dull, diffuse and aching. At the end of twenty-four hours it is usually settled down into the lower right hand segment of the abdomen. In men this pain may radiate down the leg or into the testicle. In women it usually radiates around toward the hip or down the right leg.

Constipation is common, but some cases are preceded by diarrhea, especially in young people.



On feeling of the abdomen the muscles feel tense and there is tenderness sometimes that extends up around towards the back or down into the groin, and even around the umbilicus, and up as high as the liver. The tumor may be felt at the end of twenty-four to forty-eight hours. But it may be absent in severe cases. An examination of the blood is of value in these cases as they frequently show a marked increase of white blood cells (leukocytosis), and if present is a confirmation of the diagnosis, as is fever and high temperature.

Operation. Not all attacks demand operation, though now it is a well settled matter that an operation done early is absolutely safe, or after the inflammatory disease has passed away. Many scores of chronic cases—that is, those in which there is some tenderness in the right side and evidence of diseased appendix—can be operated upon without fear or danger.

Local Anaesthesia. Some cases can be operated upon with local anaesthesia and without discomfort. We expect 100 per cent. of recoveries in this disease when the patient can be given proper preliminary treatment and care, and remain in our hospital for a period of ten days.

The incision required is small, and in our hands there is no large scar or after-danger of rupture. We do not drain unless

the appendix is gangrenous, or has ruptured. The average period in bed is five to seven days, and patients are able to leave the hospital in about two weeks, depending largely upon their condition prior to operation.

We advise against ordinary physicians performing this delicate operation. It requires special skill that comes from frequent practice. The after-treatment requires the care of nurses and physicians accustomed to the relief of distress from gas distension and the danger of peritonitis. This is now avoided by giving physostigma and saline irrigations so as to keep the intestinal canal free and clear, and using remedies that give comfort without nausea and risk, such as is consequent upon the use of morphine and other dangerous drugs.

Constipation. The connection between appendicitis and constipation is very close. A small number of cases of appendicitis may be the result of some injury, but most cases are due to constipation produced by improper diet, and failure to take suitable medicine when medicine is urgently needed. Harsh, drastic purgatives are not required, and are likely to do more harm than good, as they debilitate the system without producing anything more than temporary alleviation of the constipation. Dr. Pierce's Pleasant Pellets, upon the other hand, stimulate a flow of bile, and arouse to action all the glandular secretions which constitute nature's physic.

In the year 1916, one of our great life insurance companies lost 9,857 policy-holders by death, of which number 175 died from appendicitis. This proportion of the total of deaths may appear small, but it is well to remember that, with very few exceptions, these people might be alive to-day if they had not allowed themselves to become victims of chronic constipation. Moreover, operations for appendicitis, which are usually successful, are now performed in great numbers to relieve the suffering of men and women who would never have good health unless operated upon. In practically all these cases no surgical interference would have been necessary if these men and women had systematically obeyed the calls of nature to evacuate thoroly and regularly, had eaten a suitable quantity of vegetables and raw fruit, and had taken laxative medicine when their symptoms told them quite plainly that they were urgently in need of medicine. At such times Doctor Pierce's Pleasant Pellets are the correct medicine to take; they regulate the bowels and put the system in harmony with nature.

Doctor Pierce's Pleasant Pellets are not a novelty, but are an old and well-tried remedy for constipation, and have been in use for fifty years. Many thousands of vials have been sold by druggists, and are being sold at the present time.

HIGH-FREQUENCY

(OSCILLATING CURRENT).

This term is especially applicable to electrical currents, the high-frequency interruptions of which are obtained by means of condenser discharges in contradistinction to those produced by a disrupted static current, without the interposition of a metallic condenser in series with one or both terminals. The latter differs in several characteristics and is essentially a high potential current, 10,000 to 50,000 volts, with a minimum amperage, usually about .0005.

To generate a high-frequency current it is usual to charge two Leyden jar condensers with a high potential current, the source of which may be a static machine or induction coil, shunting the two wires with a spark-gap for the purpose of disrupting the current. The external armatures of the condensers are short-circuited through a solenoid or helix consisting of a few turns of coarse copper wire (D'Arsonval). The helix may be substituted by a straight copper bar (Sheldon). By prolonging the helix from 50 to 100 turns, this constitutes the resonator of Oudin. The upper part of the helix resonates in unison with the lower, when properly in tune, as would a tuning-fork resonate with another of the same pitch. The office of the extended helix is to amplify the current.

Another arrangement is after Tesla: The primary of a specially constructed induction coil is energized by an alternating current. The secondary terminals, giving a potential of 15,000 volts, are connected, one to each side of a suitable condenser. From each of these terminals a shunt is taken. One leads to one end of the primary of a Tesla coil; the other broken by a spark-gap, is connected to the second terminal of the primary. The frequency obtained from the Tesla apparatus is fabulously high—millions a second. The potential may be hundreds of thousands or millions of volts. The amperage is sufficient to light to full candle-power several incandescent lamps. The primary of the induction coil consumes 15 to 25 amperes. For maximum high-frequency effects this type of apparatus seems to be essential. The brush-like discharge from

the terminals may be 20 or even 50 inches in length. There are many modifications of this apparatus.

The one characteristic of the high-frequency oscillating current is its lack of power to excite the motor, and, aside from a slight sensation of warmth, the sensory nerves at the point where the electrode touches the body. The accepted explanation for this fact is, that the nerves respond to certain frequencies of stimulus; for the motor nerves, reaction takes place up to about 5,000 frequencies; if these are gradually increased muscular contraction diminishes and finally ceases. This theory is in line with reasoning as to the cause for action of the special senses—sight and hearing.

At the terminals of a working high-frequency apparatus is seen a beautiful brush-like discharge or effluve of a peculiar blue color, which will leap to any object brought near it. Interpose a plate glass one-half inch thick (or more), and the effluve will penetrate it. If the object be a vacuum tube it will glow almost as brightly as if nothing intervened. It is an ideal current for igniting Geissler and low-vacuum X-ray tubes; only one terminal need be connected.

The high-frequency discharge is a rich ozone generator, and, applied to unhealthy granulations and various skin diseases, acts as an oxidizer, antiseptic, and disinfectant. Applied to the skin before incision, it will render the site aseptic.

For general effect the patient is placed upon an auto-condensation couch or in the center of an auto-conduction cage. In the treatment of sub-acute and chronic rheumatism, sciatica, neurasthenia, etc., it is most useful.

ACCIDENTS AND EMERGENCIES.

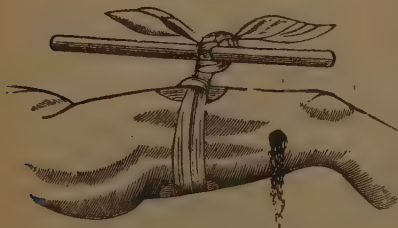
Accidents and emergencies which require immediate attention frequently occur. Professional aid cannot always be quickly obtained and hence fatal results often follow. It is, therefore, important that all persons should not only know how to proceed under such circumstances, but that they should be able to exercise that deliberation and self-control so necessary in emergencies of all kinds. Most persons are more or less affected by the sight of blood or severe wounds, and it requires an effort to maintain self-possession. One should act resolutely; otherwise he will find himself overcome and unable to render any assistance.

WOUNDS.

Wounds may be classified as *incised*, *punctured*, *contused*, *lacerated*, or *poisoned*.

Incised wounds are those which are made with a sharp, cutting instrument, and are characterized by their extent of surface.

Fig. 1.



The Field Tourniquet as Applied.

Punctured wounds are made with a pointed instrument, and distinguished for their depth rather than breadth.

Contused wounds are those produced by bruises.

Lacerated wounds are those in which the flesh is torn and mangled.

Poisoned wounds are made with a poisoned instrument, or by some poisoned instrument, or by some poisonous reptile, or insect, or rabid animal.

In all cases of wounds, the immediate danger is in the *shock* produced upon the nervous system, and in the liability to *hemorrhage*.

Shock. If severe, the shock is attended with symptoms of extreme prostration, such as a feeble pulse, shivering, partial unconsciousness, fainting, hiccough, vomiting, and involuntary discharges of the urine and feces.

Treatment of Shock.

The clothing should be loosened immediately after the accident, so that the blood may have free circulation, and the patient should be kept in a recumbent position. He should have plenty of fresh air. Camphor or ammonia may be inhaled.

If he can swallow, stimulants may be given, as whisky or brandy,

Fig. 2.



Mode of employing flexion for the arrest of hemorrhage from a wound located below the elbow.

but with care that they do not run into the trachea, or wind-pipe. If he be unable to swallow, they may be administered as injections, but should gradually be discontinued as reaction takes place. A warm pillow placed at the back and the use of electricity may be beneficial.

Hemorrhage, or bleeding, may generally be controlled by a *compress*, *tourniquet*, *flexion of the joint*, or *styptics*. A *compress* consists of several folds of cloth laid upon a wound, the edges of which have been brought together, and made secure by a moderately tight bandage.

A *tourniquet* may be extemporized by rolling a handkerchief into a cord and tying it around the limb, over a compress, between the wound and the heart. A stick should then be thrust between the handkerchief and the skin, and twisted several times, until the pressure is sufficiently great to arrest the circulation of the blood in the wounded part. A representation of this operation may be seen in Fig. 1.

Flexion of the Joint, as represented in Figs. 2, 3, and 4, is adapted to many cases of hemorrhage. As water cannot flow through a rubber tube bent at a sharp angle, so the acute flexion of a limb prevents the free flow of blood through the arterial tubes.

In some cases, *styptics* may be directly applied to the wounded tissues. Cold acts as a powerful styptic, and may generally be made available for arresting hemorrhage.

Poisoned Wounds. The treatment of these should chiefly consist in the prevention of the spread of the poison. This may be done by tightly applying bandages above the wound and scarifying or sucking the parts. Nitrate of silver may then be used and the ligatures removed. Alcohol, in any form, is an antidote to snake poison. For the stings of insects, apply aqua ammonia, fresh earth, raw onion, plantain, or spirits of turpentine.

FRACTURES AND DISLOCATIONS.

The treatment of injuries received from the fracture of bones and the dislocation of joints should never be attempted by the inexperienced, nor should the management be left to incompetent physicians but *skillful* surgical aid should at once be summoned.

Fig. 3.

Mode of employing flexion for the arrest of hemorrhage from a wound below the knee.

Fig. 4.

Mode of employing flexion for the arrest of hemorrhage from a wound located between the thigh and knee.

SPRAINS.

A sprain consists of a sudden and forcible stretching of the ligaments and tendons connected with a joint, without there being any dislocation. It is attended with severe pain and is followed by rapid swelling.

The treatment should consist of measures to prevent inflammation, promote absorption, and restore a healthy action. The affected part should be kept at rest in an elevated position, and hot or cold water applied frequently. If there is much inflammation, fomentation of hops may be used. The Compound Extract of Smart-weed is an excellent application.

When the acute symptoms have disappeared, absorption should be favored by systematic rubbing and the application of stimulating liniments, or by the use of a well-adjusted bandage. Passive motion may be resorted to gradually and the subject may use the joint moderately. Should any stiffness remain, warm salt water douches should be employed and the Extract of Smart-weed applied once a day.

BRUISES.

Bruises or contusions are caused by falls, wrenches, or blows from blunt instruments, without breaking the skin. The soft tissues are lacerated and blood is poured out into them, constituting *ecchymosis*. The discoloration passes through various shades from a bluish-black to a violet, a green, and finally, a yellow.

If the bruise is severe, the affected part should be kept at rest and frequently bathed with the Compound Extract of Smart-weed or the tincture of arnica. If inflammatory symptoms supervene, fomentations and poultices should be applied.

FOREIGN BODIES IN THE NOSE.

Foreign bodies, such as beads, peas, coffee-grains, and small gravel-stones are occasionally introduced into the nostrils of children, becoming fastened there, and causing great anxiety and alarm. If allowed to remain, they generally cause inflammation and suffering.

Such bodies may generally be washed out by gently injecting a stream of tepid salt water with a syringe or Dr. Pierce's Nasal Douche. In no case should force be used. If these means fail, a competent surgeon should be consulted.

FOREIGN BODIES IN THE THROAT AND
AIR-PASSAGES.

Foreign bodies are generally arrested so high up that they may be seen by simply depressing the tongue, and removed with the finger or a pair of forceps. The head should be thrown back in such a position as to cause the chin to project as little as possible beyond the prominence known as Adam's apple, in order that the finger or forceps may be readily introduced and the body released and ejected. When the foreign bodies are so small as to pass out of sight in the larynx, wind-pipe, or esophagus, it is generally difficult to extract them, and the services of a surgeon are required. Fortunately, however, there is not much immediate danger from suffocation in such cases.

DROWNING.

Recovery from drowning sometimes occurs when life is apparently extinct. The treatment, however, should be immediate and energetic, and should be given in the open air, unless the weather is too cold.

Treatment. The patient should be gently placed upon the face with his wrists under his forehead. The tongue will then fall forward and the water run out of his mouth and throat, while the windpipe, or air-passage, will be free. To restore respiration, he should be instantly turned upon his right side, his nostrils excited with snuff or ammonia, and cold water dashed upon his face, care being taken to raise and support his chest, turn the body gently on the side and quickly again upon the face. Alternate these movements about every four seconds, and occasionally change sides. When the body is turned on the face, gentle but efficient pressure should be made along the back, between the shoulder blades, to assist in forcing the air out of the lungs, but this pressure ought to be removed before the patient is turned back on his side. Persistently repeat this operation, and success will often be the reward. As soon as respiration is established, warmth may be promoted by the application of warm flannels to the body and bottles of hot water to the stomach, armpits, thighs, and feet. During the entire process of restoration, the body should be thoroughly rubbed *upwards*. Turning the body upon the back or handling it roughly should be avoided. The person should not be held up by his

feet, or be rubbed with salt or spirits. Rolling the body on a cask is improper, and injections of smoke infusion of tobacco are injurious. Avoid the constant application of the warm bath, and do not allow a crowd to surround the body.

FAINTING.

When a person faints, *he should be allowed to remain or be placed in a recumbent posture*, and his clothing immediately loosened. The extremities should be rubbed, the patient permitted to have plenty of fresh air, and, if at hand, ammonia or camphor should be applied to the nostrils.

BURNS AND SCALDS.

The danger arising from burns and scalds depends not only upon the extent of surface involved, but also upon the depth of the injury. Burns are most dangerous when occurring upon the head, chest, or abdomen.

Treatment. Soothing applications, and those which will exclude the air, should be made. Grated potato, poultices of slippery-elm, sweet oil, cotton saturated in a mixture composed of two or three grains of carbolic acid and two ounces of glycerine, and linseed oil and white lead, are all beneficial for the treatment of burns. If internal treatment be necessary, it should be given under the direction of a competent physician.

SUN-STROKE.

In cases of sun-stroke, the patient should be at once removed into the shade. If the face is *flushed*, apply cold water to the head and neck, and mustard to the feet. The body should be bathed in tepid water and the head slightly elevated. If the countenance is pale, and the symptoms denote exhaustion, the patient should be kept in a recumbent position, the extremities rubbed, camphor and ammonia inhaled, mustard applied to the spine, and stimulants, such as brandy or whiskey, should be administered.

POISONS AND THEIR ANTIDOTES.

POISONS.	ANTIDOTES.
ACIDS.	
<i>Acetic Acid.</i> <i>Citric Acid.</i> <i>Muriatic Acid.</i> <i>Tartaric Acid.</i>	Alkalies—carbonate of soda and potash—also lime and magnesia are antidotes to these poisons. As soon as the acid is neutralized, mucilaginous teas, such as flax-seed, gum arabic, or slippery-elm, may be given.
<i>Sulphuric Acid</i> <i>(Oil of Vitriol).</i>	Soap, in solution, or magnesia will counteract its influence. Water should <i>not</i> be given as it causes great heat when mixed with this acid.
<i>Nitric Acid</i> <i>(Aqua Fortis)</i> <i>Oxalic Acid.</i>	Lime-water, carbonates of lime and magnesia in solution, are the only antidotes. Give mucilaginous drinks.
<i>Carbolic Acid.</i>	There is no special antidote. Oil, glycerine, milk, flour and water, whites of eggs, magnesia, and flax-seed tea may be used.
<i>Prussic Acid.</i> <i>Laurel Water.</i> <i>Oil of Bitter Almonds.</i>	Ammonia, by inhalation or in solution, may be used. Apply a cold <i>douche</i> to the head.
These agents are speedily fatal.	
ALKALIES.	
<i>Liquor of Ammonia.</i> <i>Water of Ammonia.</i> <i>Muriate of Ammonia.</i>	Vegetable acids, such as vinegar, lemon-juice, citric and tartaric acids, neutralize this poison.
<i>Liquor of Potassa.</i> <i>Nitrate of Potassa</i> <i>(Saltpetre).</i> <i>Carbonate of Potassa</i> <i>(Pearlash).</i> <i>Salts of Tartar.</i>	All the fixed oils, such as linseed, castor and sweet oil, also almonds and melted lard, destroy the caustic effects of these poisons. Mucilaginous drinks may be given.

POISONS.	ANTIDOTES.
<p>IODINE.</p> <p><i>In its different forms.</i></p>	<p>Starch, wheat flour mixed with water, whites of eggs, milk, and mucilaginous drinks are excellent antidotes.</p>
<p>VOLATILE OILS AND AGENTS.</p> <p><i>Creosote</i> <i>(Oil of Smoke).</i> <i>Oil of Tar.</i> <i>Oil of Turpentine.</i></p>	<p>The same antidotes as in case of poisoning with iodine may be used in this, or the stomach may be evacuated with an emetic or a stomach-pump.</p>
<p>ALCOHOL.</p>	<p>A powerful emetic of white vitriol or mustard should be given at once, cold should be applied to the head, and the extremities vigorously rubbed.</p>
<p>ANTIMONY AND ITS COMPOUNDS.</p> <p><i>Tartar Emetic.</i> <i>Butter of Antimony.</i> <i>Oxide of Antimony.</i></p>	<p>If vomiting has not occurred, induce it by tickling the throat and giving large draughts of warm water, after which administer astringents, such as infusions of galls, oak-bark, Peruvian bark, or strong green tea.</p>
<p>ARSENIC AND ITS COMPOUNDS.</p> <p><i>White Arsenic.</i> <i>Yellow Sulphuret of Arsenic.</i> <i>Red Sulphuret of Arsenic.</i> <i>King's Yellow.</i> <i>Fly Powder.</i> <i>Arsenical Paste.</i> <i>Arsenical Soap.</i> <i>Scheele's Green.</i> <i>Paris Green.</i></p>	<p>Oils, or fats, lard, melted butter, or milk should be given, then induce vomiting with sulphate of zinc, sulphate of copper or mustard; fine powdered iron rust or magnesia may be given every five or ten minutes. Mucilaginous drinks should be given as soon as the stomach is evacuated.</p>
<p>COPPER AND ITS COMPOUNDS.</p> <p><i>Blue Vitriol.</i> <i>Verdigris.</i></p>	<p><i>Avoid the use of vinegar.</i> Give albuminous substances, such as milk, whites of eggs, wheat flour in water, or magnesia; yellow prussiate of potash in solution may also be given freely,</p>

POISONS.	ANTIDOTES.
<p>LEAD AND ITS COMPOUNDS.</p> <p><i>Acetate of Lead</i> (<i>Sugar of Lead</i>). <i>White Lead</i>. <i>Red Lead</i>. <i>Litharge</i>.</p>	<p>In lead, or painters' colic, purgatives and anodynes may be given, together with large doses of iodide of potassium. Give a strong cathartic, as there is always marked constipation.</p>
<p>MERCURY AND ITS COMPOUNDS.</p> <p><i>Corrosive Sublimate</i>. <i>White Precipitate</i>. <i>Red Precipitate</i>. <i>Calomel</i>.</p>	<p>Albumen in some form should be given; if the poison is not absorbed, follow with a mustard or Tartar emetic.</p>
<p>ACRONARCOTICS.</p> <p><i>Ergot</i>. <i>Black Hellebore</i>. <i>Veratrum Viride</i> (<i>American Hellebore</i>). <i>Aconite</i>. <i>Fox-glove</i>. <i>Gelseminum</i>.</p> <p><i>Belladonna</i>. <i>Stramonium</i>.</p> <p><i>Nux Vomica</i>. <i>Strychnia</i>.</p> <p><i>Poison Oak</i>. <i>Poison Vine</i>.</p>	<p>The general treatment indicated for this class of poisons, is to evacuate the stomach with a stomach-pump or an emetic composed of fifteen or twenty grains of sulphate of zinc or copper, or large doses of mustard, repeated every quarter of an hour until the full effect is produced.</p> <p>Morphine, sassafras, iodine, and stimulants.</p> <p>Large doses of camphor, chloroform, and tobacco, may all be beneficial.</p> <p>Muriate of ammonia, in solution, may be applied externally, and from ten to fifteen grains given internally; soda is also useful.</p>
<p>NARCOTICS.</p> <p><i>White Henbane</i>. <i>Opium</i>.</p>	<p>Sassafras may be used as an antidote for henbane. Belladonna is an antidote of opium; cold water should also be applied to the head of the patient, and the extremities should be well rubbed. Patient should drink a large quantity of strong, black coffee.</p>
<p>ANIMAL POISONS.</p> <p><i>Spanish Fly</i>. <i>Potato Fly</i>.</p>	<p>Excite vomiting by drinking sweet oil. Sugar and water, milk, or linseed tea in large quantities, and emollient injections are valuable.</p>

EXTERNAL APPLICATIONS

AND

ENEMAS

**The Hot-Water Bag, Soapstones, the Hot Compress,
Bran Bag, Cotton Jacket, Poultices, Plasters,
Leeches, Counter-irritants,
Enemas, etc.**

Pain is always an indication of inflammation or congestion; it is the cry for relief, the danger signal, and a nurse should never disregard its warning. Inflammation usually has several unmistakable symptoms, such as heat, redness, swelling or pain which may be the result of internal congestion, an injury to the tissues caused by fracture, a burn, an abscess, or a boil, etc.

The usual method of relieving pain is by dry heat applied by a hot-water bag. When it is not at hand there are substitutes such as flat-irons heated and wrapped in flannel, bags of salt heated, hot bricks and soapstones; these were all used long before rubber hot-water bags were known. There are soapstones in old families which are veritable heirlooms and have given soothing relief from one generation to another and are still in evidence. The hot-water bag is so universally used and *misused*, that though it is simple enough to handle, it is often the cause of scalding or burning, first by bursting, second by prolonged contact with a

helpless patient. The rules for its use which only require attention and care on the part of the nurse, are, the bag should never be more than two-thirds full—half is better—(Fig. 1) and the water should not be hot enough to scald the patient if a leak in the rubber occurs. Great care should be taken in applying the hot-water bag to unconscious patients. The nurse should be sure that the bag has a cover and is kept in position and that it is not left long enough to burn the flesh. Instances have been known where patients have had to remain in a hospital for some time after recovery from an operation because of a deep burn caused by the careless filling and handling of hot-water bags. In conditions of lowered vitality and for the relief of pain, the hot-water bag is much used; also for distress caused by retention of urine. In using the rubber bag care should be taken that all air is pressed out before screwing on the stopper in order that it may lie flat, and it should be remembered that glass hot-water bottles should never be more than two-thirds full.



Filling the Hot-Water Bag.

Another way of relieving pain is by the Hot Compress which is made by wringing out folds of flannel in very hot water. The proper method is to place the folded flannel in a towel over a basin, pour the hot water over it and wring by twisting the ends of the towel. (Fig. 2.) This is called a *fomentation*, and after it is unrolled and folded to the size required and the heat tested, by the nurse putting the back of her hand on it, the compress is applied to the exposed part indicated, as hot as is endurable to the patient. Then it is carefully covered with some waterproof material with a bath towel over it to prevent dripping. It may be kept hot for two or three hours if a hot-water bag half filled is placed over it. The nurse should be the judge as to the length of time and of the sensitiveness of the

(Fig. 2.)



Preparing Hot Compress

patient's skin. Some person being much more sensitive than others, burn easier. Fomentations should not be applied to patients who are very weak, unconscious or paralyzed.

In preparing a Mustard poultice, use about three-fourths of dry flour to one-fourth of ground mustard with warm water as a liquid. Stir in until a smooth paste *without lumps* is made. When the paste is ready, spread on gauze or thin linen, placing one thickness over the paste. Apply and leave on until the skin is red, being careful not to let it remain long enough to blister. And, after removing, rub the reddened part gently with vaseline or oil, after sponging with warm (not hot) water, and drying.

The Flaxseed (or linseed) poultice has been used always, or as far back as we can remember, and it has properties which retain heat a long while, but should be watched and changed often, because if through inattention it is allowed to get cold, it does harm. In making this poultice, have sufficient water boiling in a saucepan and stir in slowly, the flaxseed (or linseed) meal, being careful not to have lumps. When it is well cooked and smooth, spread on a large cloth of thin muslin, or two thicknesses of gauze, about two inches thick. Fold up the edges, roll in a towel, take to the patient and apply as hot as it can be borne, being careful to test the heat. The nurse should be careful to obey orders as to the length of time the poultice should be kept on the patient.

As a counterirritant, Tincture of Iodine is useful, and is painted on the skin with a small brush or with a little absorbent cotton twisted on a wooden toothpick or match.

There are small rubber bags that may be half-filled with hot water and applied to the cheek in case of toothache. Small flannel bags filled with bran or salt also retain heat a long time, and are useful in neuralgia in the face or earache. It is a good plan for a home nurse to have several of these little flannel bags, as they can be emptied and washed.

As every one knows, the Thermos Bottle is a great convenience, because when either hot or cold liquid is put into it, it retains the heat or cold for hours. They are much used by those who make long automobile trips. There is an invention along the same lines known as "The Thermostat," which is a rubber bag chemically treated so that heat is produced when it is lightly rubbed and these bags are said to retain heat a much longer time than those

filled with hot water. Cotton Jackets, which retain the heat for a long time, may be made for the patient's chest. To make such a Jacket, take a pound roll of absorbent cotton, warm it and spread it evenly over the patient's chest and back so that they are evenly covered (the patient in a sitting position). A layer of cotton or wool flannel cut to fit the neck and reaching from the neck to the lower ribs is sewed over the absorbent cotton, and must be left on until the need for it is past. Another way to make a Pneumonia Jacket is to spread the cotton between two layers of thin muslin lightly quilted and fitted to the body like a waist, one shoulder left open and fastened by narrow bands over the shoulder and under the arm.

A bread poultice is much used in homes to draw a splinter from a finger and is an old-fashioned application for boils, but is rather dangerous as when they "break" the poison is apt to be spread and another boil start.

The *Cold Compress* is used to relieve fever, delirium and pain, and is applied to the forehead when sweat baths are taken. As we have remarked in a previous chapter, the rule is that when heat is applied to the feet, cold should be applied to the head. This should always be kept in mind as it prevents a rush of blood to the head. A cold compress is made by wringing out a cloth in ice water and binding it in place around the head, well covered. This soon gets warm and the easier and more practical way is to wring out a cloth of Turkish toweling in cold water, place on the forehead and change frequently. Ice-bags of the required size are also used, especially in fever cases. These are small rubber bags, half-filled with crushed ice which the nurse may prepare by putting pieces of ice in a strong cloth and pounding it with a hammer, or in any way her intelligence suggests. On applying the icebag to any part of the body a light towel is placed between the skin and the bag.

Ironing the region in which the pain is located, especially in lumbago or muscular rheumatism is not practised in hospitals, but has long been a popular remedy in home nursing, and it is believed that the pressure combined with heat affords relief. The flat-iron is heated, wrapped in flannel and passed to and fro over the painful place until the sufferer cries "enough!" However, this method is of doubtful value.

Fluid sometimes gathers between the joints or in the knees (synovitis is not unusual) and also around the heart (pericarditis with effusion). These are serious conditions if not attended to. In pleurisy when the physician suspects the formation of purulent fluid (empyema), it is necessary to draw it off by tapping the cavity, and when a large opening is necessary the cavity is drained with rubber tubes. In ordinary cases of pleurisy *counter-irritation* is resorted to for absorbing and checking the formation and relieving pain. In administering all poultices, plasters or blisters, a careful cleansing of the skin is important, and before applying a blister a mild disinfectant should be used in order to have the skin antiseptic when the blister is opened. A nurse should apply all blisters under instructions if possible, and should give careful attention to details.

The blister commonly used is prepared of Spanish Fly (cantharides). Like Iodine, the Cantharidal Collodion Blister is applied with a soft camel's hair brush, keeping within the inflamed area and not allowing it to spread beyond. After it is dry cover with a thin linen cloth or gauze, keeping it in place with a light bandage. The time usually given for such a blister is from four to eight hours. The irritant having been removed, a poultice may be applied, or sweet oil may be applied and covered with sterilized gauze.

Croton Oil is a powerful blister usually applied to the chest, but should never be used inadvisedly, as it often is in homes. Instances have been known in which a very sore and inflamed chest was the result.

A good liniment is often efficacious in relieving sore joints, as the knees; rubbing should be with a long upward stroke, using the flat hand. Suggestion aids, and the magnetism of the person combined with the thought that the rubbing is strengthening and relieving, doubles its efficacy. Such is the power of mind over matter!

The Belladonna Plaster is used for lumbago and muscular pain. It is warmed and applied to the painful part and carefully smoothed out to prevent wrinkles.

The Capsicum Plaster is used by those who like to doctor them-

selves and it affords heat to the painful part, and is a counter-irritant. The opium plaster is soothing but is not in general use. A plaster of ammonia and mercury is sometimes applied to introduce mercury into the system.

Removing a plaster is often a painful process. If it adheres too much it can be removed by dissolving the adhesive substance with turpentine or ether. Sweet oil is better to remove capsicum and mustard plasters, as turpentine may blister.

The Leech, a blood-sucking worm, has been used to draw blood and in olden times doctors were sometimes called "Leeches"! The leeches were kept in a wide-mouthed bottle of fresh water when not in use. The leech will refuse to bite if there is any strong odor from scented soap.

A popular treatment for snake bites, or the bite of any animal: For rattlesnake bite, a serum in dried form, that can be at once dissolved in distilled water and injected, is a valuable remedy and has saved many lives. It should be in every hunter's pocket where snakes are found. For the bite of mad animal, see Hydrophobia on page 770.

In hospitals, military or otherwise, *Enemas* are usually given to the men by an orderly; but if he is not at hand the nurse must attend to it. She must be ready always to face disagreeable duties cheerfully, as "all in the day's work."

The purpose of an enema (rectal injection) is to unload the lower bowel. About three pints of water is used in a rubber bag to which is attached either a soft rubber rectal tube, or a short hard rubber rectal tube. The rubber cone-shaped rectal tube, with the opening on the side, is considered the best, but usually for simple injection the hard rubber nozzle attached to the fountain syringe is used. A small rubber sheet should be placed under the patient's thighs whether in the hospital or home, to prevent wetting the bed; or, a large Turkish bath towel may be used to absorb the moisture.

In giving an enema, in order to prevent air entering the bowel, which often causes pain and distention, the tube must first be filled with fluid and clamped so that the fluid

cannot escape while the tube is being inserted; then turn the patient on the left side with the knees bent so that the muscles of the abdomen are relaxed. When the patient is in position (the water or solution having been allowed to run off into the bed-pan or commode which is near at hand, until warm enough,) the tube is greased and inserted about six inches into the rectum, if rectal tube is used; this is called a *low enema*; the *high enema* reaches as far up the colon as possible and the tube must be passed (with great care) beyond the sigmoid flexure at least eight inches. The nurse must not push the tube too hard, for only by gentle and skillful handling can this delicate process be successfully accomplished. If the patient is not bed-ridden, the knee and elbow position is convenient and effectual. This requires getting down on both knees and elbows, raising the hips and lowering the shoulders. The bowel is quickly filled if the douche bag is sufficiently elevated, and it is possible to irrigate higher than in the side-lying posture. The nurse should also know the proper temperature for different kinds of enemas. The inexperienced nurse cannot expect to remember all the variations, even though she has studied them. Knowledge comes with experience, and if enemas are given to patients who are very ill, the physician or head nurse must be consulted. It is unquestionably better to consult the attending physician and follow his directions when the case seems to require the use of the douche.

For a simple enema the procedure is, after the patient is in position and the tube inserted into the rectum, the "shut-off" is released and a solution of soapy water allowed to run into the bowel until a sufficient quantity has been taken in. An enema must not be given too rapidly as is apt to be done by careless or inexperienced nurses. It often causes distress and the patient expels the solution too soon. In some cases the rectum is clogged with a hard dry substance, and it is imperative this should be removed for often it is a dangerous condition. When it becomes a real necessity to remove it, the nurse attends to it by inserting the finger protected by a rubber finger-stall or glove well oiled. It is obvious for several reasons that the finger should never be inserted unless so protected.

Pure soap should always be used in preparing a soap-suds enema. Laundry soaps contain ingredients which may irritate the mucous membrane. This is the most commonly used enema to move the

bowels, the water being warm and the quantity from 3 to 4 pints.

The Salt Solution cleanses the lower bowel and is often the means of bringing the patient up to normal, after a collapse, by raising the blood pressure. It is given warm, with the temperature of the solution as high as 120° F.

The Nutritive Enema is a method of feeding, used when the patient cannot retain even liquid food in the stomach, in cases of ulcers or cancers, and in stricture of the esophagus. As the large intestine absorbs, but does not digest, the liquid food is peptonized unless already prepared for absorption. Milk is largely used, often combined with white of egg, beef extract and salt. Before giving the Nutritive Enema, a simple enema is given to cleanse the bowel.

The Glycerine and the Oil Enemas are beneficial in some cases, and the Gelatin Enema is resorted to for hemorrhage of the stomach and intestines. There are instances when it was impossible to reach the seat of trouble in any other way, and the injection of gelatin dissolved in hot water has stopped bleeding, and saved life. The Starch Enema is given to check diarrhoea and the Carminative Enema to relieve distention and flatulency. There are the Asafoetida Enema and the Turpentine Enema, which latter is made by adding a scant half ounce of turpentine to a pint of soap-suds solution, after giving this a pint or a little more of the clear soap-suds should be administered.

Sedatives are also given in enemas, such as chloral, bromides, etc. The quantity of warm water or milk used should be about three ounces, the drug dissolved in one half, the other half given immediately after. The bed pan should be warmed before using. When a patient is very weak he will have to be helped in using it, but many men are able to help themselves and are usually glad to do so.

A HOSPITAL LIKE A HOTEL

Why not? A hospital, like a hotel, is a building for housing temporarily a large number of persons. Unlike a hotel, it must include certain features dependent on the fact that its inmates are undergoing treatment for injury or disease. But so far as its living-quarters for patients are concerned, why should it not be patterned after an up-to-date hostelry? Asa S. Bacon, Superintendent of the Presbyterian Hospital of Chicago, answers this question by proposing a type of hospital looking on the outside exactly like a hotel or an apartment-house. The proposed type, Mr. Bacon thinks, is both more efficient and economical than that with which we are familiar, and is especially adapted for the patient with a moderate income. Writes Mr. Bacon in *Hospital Management* (Chicago, May):

"It is often said that our hospitals are for the rich and the very poor. There is no medium accommodation for the great middle class. For the average patient, the present private rooms are too expensive, and his nervous, sensitive condition rebels against the ward. And yet the man in moderate circumstances, unable to pay for an expensive room, should find a haven of quiet, peace and rest in the hospital. These people are in the majority. They deserve consideration, for they are the backbone of the community.

"All of the large industries in the past few years have devoted a great deal of time to the study of efficient production and the elimination of lost motion, with the end in view of cheaper and better products. In many cases this has led to some very radical changes, not only in methods of administration, but in the abandonment of present plants and the building of new ones, simply because the physical arrangements of the old were beyond remodeling, and hopeless.

"Hospital Superintendents have been watching this evolution and have gained many hints, applying them in their operation of the old hospital buildings, but it has been a repairman's job, and has only helped out to a small extent; enough so, however, to prove convincingly that, if given a chance, efficiency methods would do as much for hospitals as they have done for industries and business where competition is keen and the dollar talks.

"With these thoughts in mind, there has been evolved a hospital plan which, it is believed, will provide for the sick of a community the same efficient, but at the same time economical, service that business demands, and will meet the need, long felt, of caring for the large, and independent but moderately financed class of people who are now but poorly accommodated by our hospitals.

"In working out this plan certain fundamental principles of construction and organization have been found to be imperative. These are the abandonment of large private rooms and wards and the substitution of small private rooms; the abandonment of special-duty rooms and general lavatories and the substitution of toilet and lavatory with each patient's room; the abandonment of floor diet-kitchens and serving-rooms and the substitution of one large central kitchen and serving-station; the abandonment of floor linen-rooms and the substitution of one central linen-supply room; the abandonment of long corridors, necessitating the carrying for long distances of food, linen, drugs and supplies and the substitution of dumb-waiters direct from the central supply-rooms to each floor section; the abandonment of telephoned requisitions and the substitution of pneumatic tubes carrying written requisitions from each floor to the central supply-stations."

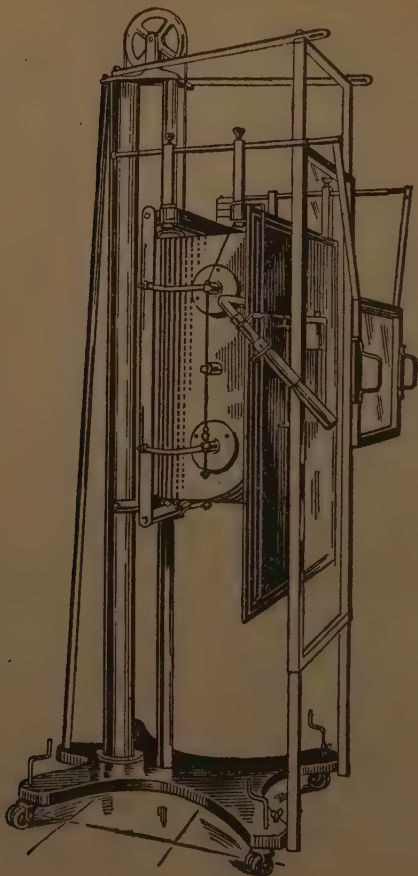
Of all the advantages claimed for the new plan, the separate and individual room for each patient comes first. The private room in practically every hospital is now a luxury. But in the new arrangement the retirement of service-rooms to the basement and the utilization of the space thus gained make possible a moderate-priced hospital. Further comfort is provided by the installation of a complete utility equipment with each room, made possible by economies in personal service. Mr. Bacon goes on:

"The private room for each patient with its complete utility equipment not only provides comfort, but absolutely solves many problems. The question of contagion is eliminated; each room complete in itself, needing no service which is common to any other. Or, a patient, developing some contagious disease at a late date, does not have to be moved at possibly the most critical time because of danger to others. Again, the room temperature can be kept at the degree best suited for each patient, or the room can be turned into a solarium if desired. Better examinations can be made and histories taken than in a ward, and they may be made at odd hours which might otherwise disturb others. Hospital visiting-rules can also be allowed to fit the individual patient and not fret the patient for the sake of a rule. It also allows the occupancy of all the beds at all times.

"Every institution is judged by its ability to satisfy the people who patronize it and by the actual results obtained from the energy expended. This energy may be money or personal effort on the part of employees. If it be money, the present form of hospital will suffice. If it depend upon personal effort of employees, a more efficient and economical plan must be worked out. This the 'New Efficient Hospital' expects to accomplish."—*Literary Digest*.

KELLY-KOETT VERTICAL FLUOROSCOPE

(IN USE AT INVALIDS' HOTEL)



This wonderful piece of X-Ray apparatus enables the operator to see the organs of the living body moving and acting.

The heart's action can be studied.

Diseases of the lungs, such as tuberculosis, can be diagnosed.

Examination of the entire digestive tract may be made and ulcer, cancer and displacements of the stomach and intestines definitely determined.

The skull, bones and joints can be studied.

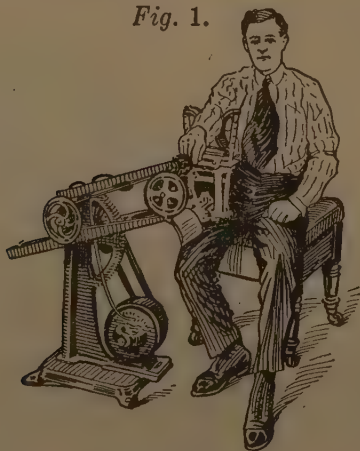
MECHANICAL AIDS

IN THE TREATMENT OF

CHRONIC DISEASES

We have, in different parts of this work, referred to a large variety of ingeniously devised machinery and apparatus employed at the Invalids' Hotel and Surgical Institute, in the treatment of chronic diseases. Although we can, on paper, give but a meagre idea of the variety and adaptability of these valuable mechanical appliances, yet we will endeavor to illus-

Fig. 1.



Rubbing the Arm

trate and explain a few of our machines and their application of transmitted motion.

These appliances may be referred to quite naturally, as Manipulators since their action resembles so much that of the living operator. It is impossible however for the unaided hand to impart the degree of rapidity necessary to secure the effects easily attained by these machines.

Fig. 1 represents the Arm Manipulator in operation. The machine is propelled by electric motor and power generated at the Invalids' Hotel and Surgical Institute, as here represented. One arm is inserted between the double rubbing

pads, which are raised to about the height of the shoulders, the patient being seated at the side of the machine, and which consist of two opposing elastic adherent surfaces. These have alternate reciprocating action from the rock-shaft and are made to approach each other and press the included part at the will of the patient. All portions of the arm from the shoulder down are successively included in the rubbers, while a suitable degree of rubbing action is attained. To apply the same operation to the other arm, the patient may either turn in his seat or change his position to the other side of the

Fig. 2



Rubbing the Leg.

machine. As much pressure may be applied as is perfectly agreeable and which may be diminished at any point unusually sensitive. By holding these reciprocating rubbers in a firm grasp, motion is imparted to the arms, shoulders, chest and abdomen.

Fig. 2 represents the Leg Rubbing Machine or Manipulator. The patient is seated comfortably upon a sliding seat which is drawn forward to the extreme point, and one thigh inserted

between the rubber arms. While the machine is running with the same reciprocating action as in Fig. 1, the seat is gradually pushed backward, the full length of the leg receiving proper action and the whole, including the foot, has a warmth and an improved circulation from the action.

In Fig. 3 is shown the Foot Oscillator which is another valuable aid in the restoration of the circulation in the feet and legs and which is much in favor with all patients whose condition permits its use. The rapid movements or oscillations induced by the motor attached, produce a marked sensation of stimulated circulation and one is conscious of the warming which the member has received. Quick relief is obtained by those who suffer habitually with cold feet.

Fig. 3



Foot Oscillator.

The Oscillator receives the foot at a comfortable elevation, the leg being extended while the patient is comfortably seated in an easy chair. The action extends to the thigh and pelvis, though by flexing the knee slightly, the movement is almost entirely confined to the lower leg and foot.

Motion, transmitted by the Manipulator, exerts a curative effect in *all* chronic affections, and is not limited, as is sometimes supposed, to paralytic affections and deformities. In these latter affections it is a great assistance in effecting a cure; while, in chronic affections, whatever the local symptoms,

it supplies the additional energy which is indispensable for recovery in all diseases of long standing.

SWELLINGS AND TUMORS

The application of motion promotes absorption, and thus *swellings* and non-malignant *tumors* are made to diminish under its use. In these cases the vessels of the affected part are distended with stagnant blood, and a portion of the fluid passes through their walls, distending the surrounding tissues, which become more or less hardened. By the transmission of active motion to the affected parts, the contents of the vessels are urged forward; the outside fluids are thus permitted to return to the general circulation and become subject to the energetic vital action of the general system, local deficiencies of oxidation being increased to the normal degree, causing destruction of morbid matter and giving place for new and wholesome nutritive materials for vital use. In short, normal functional activity is established, both locally and generally. Scrofulous, dropsical, rheumatic, and other local accumulations disappear, and even tumors are dispersed in cases in which the knife would otherwise be required.

COUNTER-IRRITATION AND REVULSION.

Artificial means have always been employed to produce an energetic flow of blood in different parts of the body, thereby relieving morbid distention of the vessels, and consequent irritation and pain in neighboring parts. Cupping, hot applications, mustard, capsicum, blisters, and other irritants, are resorted to, but their effects, while generally very good in acute cases, are too transient to be of material aid in chronic affections. By the use of mechanical appliances we can produce the most thorough revulsive effects, operating upon large surfaces, and causing large masses of muscle to receive an increased amount of blood, thus drawing it away from parts oppressed by too great a supply, constituting engorgement. No injury is done to the parts acted upon; on the contrary, they are strengthened by the application, which can be

repeated as often as necessary till relief is permanent. Thus, the head, heart, digestive organs, liver, chest, or whatever part is oppressed by excess of blood, may be speedily and permanently relieved. By means of this ability to relieve any part of the system from engorgement, and consequent inflammation and its results, are we enabled to permanently cure a large variety of chronic inflammatory, ulcerative, and nervous affections.

Local inflammations by this method of treatment may be speedily cured.

NEURALGIA

By the transmission of motion we increase the functional power and activity of the muscles, and thereby diminish morbid sensibility of the nerves, which is present in neuralgia. Prolonged and excessive nervous action is attended with too great a rush of blood to the nerve-centers, which can only be relieved by increasing the flow in the muscles. Congestion,¹ or hyperæmia, in the spinal cord or brain, or both, is a condition ever present in neuralgia. The application of motion causes the blood to flow to the muscles, thus relieving nervous congestion and consequent neuralgia.

PARALYSIS

In no single disease has the transmission of motion proved more thoroughly efficacious than in *paralysis*. The most prominent requirements in these cases seem to be the following:

Excess of blood in the brain and spinal cord needs to be removed and diverted to parts in which it will be useful instead of obstructive.

The contractile power of the capillaries should be improved.

The quality of nutritive fluids should be improved by the promotion of oxidation through increased circulation.

These and many more wants of disordered nerves, are readily supplied by transmitted motion.

DEFORMITIES.

Deformities arising from *paralysis and contractions of muscles and tendons*, producing stiffened joints and distorted limbs,

are of common occurrence. A rational explanation of the wonderful curative results which follow the employment of transmitted motion in these cases may not be without interest to the reader. The muscles are composed of *bundles* of little fibers which glide upon one another in every movement. Another set of fibers called *connective tissue*, holds the fibers together in bundles or separate muscles, and interlaces and crosses them in every direction. Now, if these fibers remain long in a fixed position, or are involved in inflammation, there is danger of adhesions forming between them, producing permanent immobility; gliding movements are interfered with, and the muscle ceases to perform its function. Inflammation gives rise to effusion, or the formation of a kind of cement which binds together the muscular fibers and prevents motion.

Rubbing, kneading, and actively manipulating the affected parts with intensity of administration rends asunder and breaks up these minute adhesions, re-establishing gliding motions, causes absorption of effused materials, and restores the affected part to a normal condition.

Fig. 4



Muscular fibres highly magnified.

The deformed limb is straightened by the filling out of the muscle-cells, and increasing the length and also the nutrition of the affected muscles. No pulling or *forced extension* is required. Deformity ceases when the conditions upon which it depends are removed by rational appliances, which are always agreeable. No brace, splints, or other confining appliances

are necessary, except in rare cases in which the bones are very badly distorted.

In withered and deformed limbs, resulting from infantile paralysis, manipulation furnishes the most agreeable, direct and certain remedy. It restores nutrition, sensation, and power, and dispenses almost wholly with mechanical supports. Wry neck, spinal curvature, and stiffened joints, are all readily amendable to the curative effects of motion.

Contracted and shortened muscles are gradually lengthened

by vigorous, long-continued, and frequently repeated rubbing across their longitudinal fibers; bound-down and confined tendons are liberated and normal movements established.

DISEASES OF WOMEN

Uterine and ovarian congestion, chronic inflammation, discharges, morbid enlargement, prolapsus, anteversion and retroversion, anteflexion and retroflexion, and other derangements of the womb and its appendages, are radically cured by the vibratory, rubbing, kneading, and other movements, administered through mechanical appliances employed at the Invalids' Hotel and Surgical Institute.



One of several Physicians' Rooms for Examinations and Local Treatments.

To those who are tired of taking medicine, this mode of treatment commends itself as being both agreeable and efficient. There is no case too weak, nervous, or helpless for the use of this curative agent. It is entirely devoid of objectional features, being *always applied outside the clothing*.

Cause of Female Weakness. The true relations of cause and effect are very liable to be misunderstood, when considering the various diseases incident to the organs contained in

the female pelvis. Treatment intended to be remedial is therefore very often misdirected and fails to afford relief, positive injury frequently resulting instead. When the nature of these diseases is properly understood, their cure can be effected with comparative ease.

These diseases are always attended with weakness, which is often very great, of the muscles that hold the diseased organs in position. The muscles forming the walls of the abdomen, and the diaphragm, or midriff, all of which are concerned in the act of respiration, become feeble and only partially perform their functions. In health, they act constantly, even during sleep, producing a rhythmical movement, which is communicated to the contents of the abdominal and pelvic cavities. This motion promotes a healthy circulation in the parts. In almost all affections of the pelvic organs, this normal condition is greatly diminished.

Diminution of the motions of respiration is attended with an increase of the amount of the blood in the pelvic organs, constituting an engorgement of the parts, called congestion, or inflammation. This gives rise to enlargement of the womb, ulcerations, tumors, and a multitude of kindred secondary effects, usually considered as the primary disease and treated as such. The contents of the cavity of the trunk, weighing several pounds, are allowed to gravitate down and rest upon the contents of the pelvis, forcing the congested uterus and ovaries down out of their natural positions, and often bending or tipping the womb in various directions. A long list of symptoms follows as the natural consequence of these abnormal conditions.

Rational Treatment. Ovarian congestion and inflammation, inflammation of the uterus, ulceration of this organ, deranged menstruation, leucorrhea with the attendant pain, nervousness, and other derangements depending upon loss of supporting power in the abdominal muscles, all result from loss of the *natural* motions of respiration, and consequent deranged circulation. These several conditions can be cured by removing their cause. When the power of the parts involved in the

weakness is restored, all these morbid conditions disappear. Judicious cultivation of power in the weakened supports is attended with certain curative results. This is best accomplished by mechanical motion, by which the normal circulation is restored, inflammations and congestions are subdued, displacements corrected, ulcers healed, and functional activity is re-established.

RECAPITULATION.

Motion properly transmitted to the human system by mechanical apparatus is transformed into other forms of force identical with vital energy, by which the ordinary processes of the system are greatly promoted.

It increases animal heat and nervous and muscular power to the normal standard.

It removes engorgement or local impediments to the circulation.

The electrical induction produced renders it most efficacious in paralysis.

It removes interstitial fluids and causes rapid absorption and disappearance of solid and fluid accumulations.

It is a powerful alterative, or blood-purifier, increasing oxidation and stimulating excretion.

It diminishes chronic nervous irritability and promotes sleep.

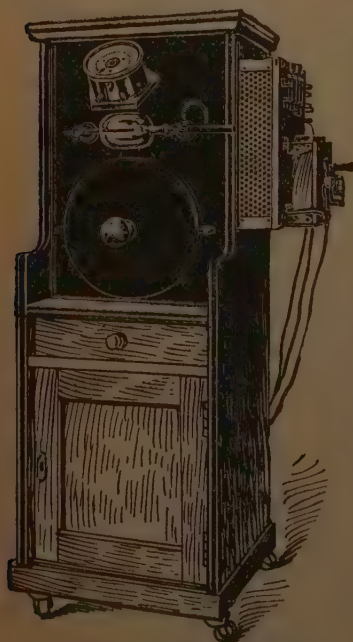
It hardens the flesh by increasing muscular development and improves digestion and nutrition.

Health depends upon the flow of blood to the various organs and parts of the body, it consists in general terms upon the passage through the blood vessels of serum that furnishes the nourishment to the cells, and the return of this serum through the lymphatics and veins to the organs that remove from the blood, the poisons that the cells have thrown into the venous blood.

The mechanical benefit of massage is to increase the activity of this process. It aids in carrying healthy blood to weak-

ened or imperfectly nourished organs, and assists in a prompt return flow of the used up and poisoned blood that comes from the cells and its removal from the body through such organs as the kidneys, the lungs, the liver and the bowels.

The mechanical appliances of massage are of benefit because they make these changes more rapidly. Many persons are so weak they cannot exercise, or their age is such that they cannot with safety get around so as to further the rapid flow of good blood to weakened organs and the expulsion of unhealthy material from the blood.



Excell High Frequency Machine
(Wappler) used at Invalids' Hotel.

These mechanical appliances are for the purpose of aiding in this work. They are run by motors, they are tireless, and an individual can receive as much massage and helpful aid as may be required. This method of treatment is directed by competent and trained assistants who see that the right amount is administered. The results are a rapid improvement in the health and all the benefits that come from outdoor exercise without its tiring effects, or the injurious results upon the heart that may come from over-exertion.

In the Invalids' Hotel our aim is to furnish good foods, aid in proper digestion and assimilation, and to remove from the body unhealthy results of body waste. Fat people are made thin, and weak persons are strengthened and developed by this method of treatment.

It is not what one eats but what is assimilated that benefits.

Dr. Pierce's Family Medicines

If the following medicines cannot be obtained from your nearest dealer in medicines, they will be sent by mail direct from the Laboratory of the World's Dispensary, Buffalo, N. Y., on receipt of price named below.

DR. PIERCE'S GOLDEN MEDICAL DISCOVERY (in tablet or liquid form) is an alterative and vegetable tonic, which invigorates and cleanses the whole system. A good remedy in cases of Biliousness and Habitual Constipation. Good for obstinate Coughs (not tubercular). Contains no alcohol. Tablets, small size, 65c.; extra large size, \$1.35, by mail. Liquid, \$1.35.

DR. PIERCE'S FAVORITE PRESCRIPTION (in tablet or liquid form) is an herbal tonic for weak women, especially recommended in cases of Barrenness, or Sterility, Morning Sickness, Hysteria, Nervousness. Contains no alcohol. Tablets, small size, 65 cents; large size, \$1.35, by mail. Liquid, \$1.35.

DR. PIERCE'S ANURIC TABLETS. A stimulant diuretic to the kidneys successfully used by the physicians at the Invalids Hotel. Price, small size, 65 cents; large size, \$1.35 by mail.

You will receive at least one-fourth more of the above-mentioned medicines for \$1.35 than you did previous to 1923, for we have enlarged the bottles

and contents in both liquid and tablets.

DR. PIERCE'S IRONTIC (iron-tonic) TABLETS make redder blood. If the blood is impoverished, we feel nervous, sleepless, "fidgety," the blood needs to be built up. If we lack iron in the blood, we are pale, anemic. This Iron-ic is a combination of soluble iron and herbal extracts. Price, 65 cents, by mail.

DR. PIERCE'S CHILL TONIC PILLS. A remedy for Malaria; used for sixty years by an eminent Florida physician and senator. Given to Dr. Pierce to benefit humanity. Successfully used by thousands. Price, 65 cents, by mail.

DR. PIERCE'S PLEASANT PELLETS give satisfaction in cases of Bilious and Sick-Headache, Dizziness, Constipation, Indigestion, Bilious Attacks and many derangements of the stomach and bowels when due to constipation. Price, 60 Pellets, 30 cents, by mail.

DR. PIERCE'S LOTION TABLETS are especially efficacious in obstinate and long-standing cases of Leucorrhœa, or "Whites." Price, 35 cents per box, by mail.

DR. PIERCE'S SUPPOSITORIES. Allay irritation, and tend to produce a tonic and strengthening effect. Price, 35 cents per box, by mail.

DR. PIERCE'S MEDICATED TAMPONS as an application for ulceration about the mouth and neck of the womb, are better than the ordinary caustic applications generally employed for these affections, and can be easily applied by the patient herself. They destroy offensive odors that may characterize the discharge from long-standing ulcerations. Price, \$1.35 per box, by mail.

DR. PIERCE'S COUGH SYRUP is a reliable Remedy for Coughs and Hoarseness due to Colds. Price, 35 cents per bottle.

DR. SAGE'S CATARRH REMEDY is for Relief of Acute and Chronic Nasal Catarrh. Price, 65 cts. (That sold by druggists is in bottles; that sent by mail is wrapped with tin foil.

DR. SAGE'S CATARRH REMEDY TABLETS for use in connection with Dr. Pierce's Nasal Irrigator. This preparation, by coming in contact with the nasal mucous membranes, removes mucous and purulent deposits and helps to restore the parts to a normal condition. Price, 65 cents per bottle. Sent by mail with free glass irrigator.

DR. PIERCE'S NASAL IRRIGATOR (glass). Price, 45 cents, by mail.

DR. PIERCE'S NASAL DOUCHE. Price, 65 cents, by mail.

DR. PIERCE'S SALVE is a cleansing dressing for superficial wounds, cuts and scratches. Price, 65 cents, by mail.

DR. PIERCE'S ANODYNE PILE OINTMENT is a soothing, cooling application for Piles, or Hemorrhoids, and will benefit cases amenable to medical treatment. Price, 65 cents per box, by mail.

DR. PIERCE'S COMPOUND EXTRACT OF SMART-WEED may be taken internally as a corrective for such variations of Indigestion as might develop Wind Colic, Flatulency, Looseness of the Bowels and Diarrhoea. Price, small bottle, 35 cents; large size, 65 cents.

DR. PIERCE'S AMMONIO-CAMPHORATED LINIMENT, for superficial aches, a counter-irritant, helpful in cases of sprains, bruises and stiff muscles. Price, 65 cents per bottle, by mail.

DR. PIERCE'S SOOTHALINE is especially recommended for Sunburn, Chilblains, tired, burning, aching feet, Insect Stings. Applied after shaving (Mentha) Soothaline is very cooling and healing. Price, 65 cents per jar.

DOCTOR PIERCE'S

ANURIC TABLETS

FOR KIDNEYS AND BACKACHE.

Two kidneys, each as large a mass as your fist, perform the duties of removing poisons from the blood from birth to old age. Death results in a few hours if the kidney cells do not remove the waste materials and fail to perform their function.

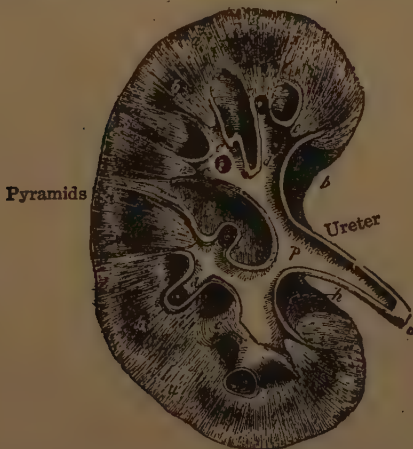
The following symptoms of disease of the kidneys are taken from the "Diagnostics of Internal Medicine," by Dr. Butler, whose great work on diagnosis is one of the standards in use by physicians:

"Dragging pain in the lumbar and sacral regions"
(small of back and hips).

"occasionally colicky abdominal pain."

"intercostal and lumbo-abdominal neuralgia" (pain in ribs and belly).

"symptoms of hysteria and neurasthenia" (nervous breakdown).



One half of the Kidney laid open to show the pyramids of excreting tubes as they enter the ureter.

- "hypochondriasis" (low spirits).
- "serious mental anxiety" (worry).
- "nervous dyspepsia" (weak stomach).
- "prolapse of the stomach" (sagging of stomach—slow digestion).
- "descent of many abdominal viscera" (flabby dragging of organs of abdomen).
- "constipation" (stools infrequent).
- "severe abdominal pain" (bellyache).
- "chills—fever—nausea—vomiting—prostration."
- "swelling of the kidney" (fullness in loins).
- "diminution (scanty) or suppression of the urine," which may contain blood, albumin or casts.
- "more or less prostration" (weakness).
- "headache."
- "sleeplessness."
- "paralysis."
- "amaurosis" (cloudy vision).
- "convulsions."
- "mania" (out of head—wild).
- "vomiting."
- "delirium."
- "coma" (unconsciousness).
- "increased arterial tension" (high blood pressure, thumping of pulse).
- "dyspnoea" (short of breath).
- "often there is marked fever."
- "sometimes muscular spasm is present" (jerking of muscles).
- "repeated acute attacks of uraemia" (nervous excitement from poison in blood).
- "headache, usually occipital and generally severe" (pain in back of neck).
- "itching—numbness and cramps."
- "paralysis may take any form."
- "hemiplegia and monoplegia" (paralysis of part of body).
- "aphasia" (loss of speech or inability to remember and speak certain words).
- "catarrhal or membranous colitis" (catarrh or mucous discharges from bowel).
- "furred tongue."
- "foul breath."
- "oedema" (swelling of the limbs and under the eyes).
- "hyperaemia" (redness of face).

- "swelling of the lips and buccal mucosa" (mucous membrane of the mouth).
- "ascites" (swelling of the abdomen, distension of it with water).
- "pleuritic effusion" (water on the lungs).
- "pulmonary oedema" (water in the lungs).
- "uraemic hemiplegia and monoplegia occur" (temporary paralysis).
- "suffused face."
- "loud breathing."
- "full, slow pulse."
- "more or less general effusion" (dropsy).
- "anaemia" (thinness of the blood, paleness).
- "urinary changes."
- "the skin, however, is dry."
- "rapid cardiac dilation with fatal issue" (weak and enlarged heart).
- "recurring attacks of bronchitis."
- "the arteries gradually become stiff."
- "left ventricle hypertrophied" (enlargement of left side of heart).
- "gout."
- "palpitation—bronchial cough."
- "tinnitus aurium" (ringing of ears).
- "muscae volitantes" (spots before the eyes).
- "dizziness—malaise" (sick feeling).
- "a systolic murmur" (a cooing sound to heart).
- "eczema" (salt-rheum).
- "dry and itching skin."
- "pins and needles."
- "cramp—numbness."
- "moderate backache."
- "tenderness to deep pressure over the kidneys."
- "often decided chills and sweating."
- "loss of flesh and strength."
- "appetite poor."
- "night sweats."
- "renal colic" (sharp pain in back and side).
- "the patient is suddenly seized with pain of an agonizing character, having its origin in the lumbar region (back) either anteriorly or posteriorly (front or back)."
- "there is often strangury" (painful desire to urinate).
- "renal calculus may be present for years."
- "the finding of a tender, fluctuating mass in the space between the last rib and the crest of the ilium" (top of the hip bone).

"oedema of the skin" (swelling).

"bending of the trunk toward the affected side is said to be a sign."

In no case are all these symptoms felt at one time. A few are usually present in the average case at a time. Often they disappear only to recur. Our patients report remarkable results and improvement from these symptoms after the use of Dr. Pierce's An-uric Kidney Tablets. They always benefit, and never do harm. We have noted remarkable recoveries in many serious cases.

There will be found on the later pages an unbiased expression of the high opinion held by the most eminent medical men regarding the value of the ingredients of these An-uric Kidney Tablets for the relief and cure of the conditions and symptoms given.

A few illustrations follow to show how to use Dr. Pierce's An-uric Kidney Tablets, under various conditions.

Special advice may be had by writing Dr. Pierce's Invalids' Hotel, Buffalo, N. Y.

HOW TO USE DR. PIERCE'S AN-URIC KIDNEY TABLETS FOR BACKACHE, PAIN IN THE BACK OF THE NECK :

Begin using one Kidney Tablet after each meal with a large glass of water. Another glass of water with or without a Kidney Tablet may be used with benefit an hour or so later. Increase the dose of the "Tablets" each day until three or four are taken after each meal and at night, or until relieved.

In severe cases, hot applications, as a pack with Dr. Pierce's Ammonio-Camphorated Liniment, or a hot water bag, or bag of hot table salt may be employed. Usually the bowels should be freely acted upon by taking from three to six of Dr. Pierce's Pleasant Pellets daily. If the pain causes wakefulness, one-half or one tablespoonful of Dr. Pierce's Compound Extract of Smartweed should be taken on retiring with a cup of hot water and two Kidney Tablets.

The articles of diet should be on this order: You may eat sparingly of the following:

Soups.—Clear, ox tail or turtle, chicken broths, meat essences.

Eggs.—Lightly boiled, poached, fried, or scrambled in butter.

Meats.—Moderate once each day. Beef, steak or roast, medium or well done; chicken, lamb, sweet-breads, calf's foot jellies, extracts of meat.

Fish.—Sparingly. Oysters, clams, raw or roast.

Farinaceous.—Brown bread, toast, biscuit (not fresh), rice, oatmeal, tapioca, sago, arrowroot, barley.

Vegetables.—Especially green. Spinach, asparagus, dandelion, beet tops; peas, fresh and young; beans, fresh and young; radishes, parsnips, carrots.

Fruits.—Oranges, bananas; pears or prunes cooked; stewed apples.

Beverages.—Hot water, weak tea, koumiss, lemonade, aerated waters. Milk, fresh with equal part of boiled water. To each pint add 40 grains sodium bicarbonate and a little salt. Drink freely.

Mineral Waters.—Vichy, Deeprock, Apollinaris, Lithia water, Carlsbad, Bethesda, Saratoga.

Must Avoid.—Rich soups, hard boiled eggs, fried foods, pickles, spices, veal, duck, goose, salmon, lobster, crabs, rhubarb, strawberries, omelets, sweet fermented drinks, beer; pies, preserves, fruits, bread.

1. Wear flannel or wool next to the skin. Avoid taking cold. Warm baths, and tepid baths especially beneficial.

2. Dine in the middle of the day, and avoid heavy suppers.

Special advice may be had by writing to Dr. Pierce's Invalids' Hotel, Buffalo, N. Y.

COLDS, BRONCHITIS,

For Cold in the head (coryza), catarrhal cold, grip, bronchitis, sore throat, threatened quinsy—all these acute conditions have been found to be due to the presence of poisons in the system, due to germs and various other causes. Generally they produce a paralysis of the digestive functions, and there is more or less accumulation of irritating matters in the bowel.

For the treatment of this condition there is no more active plan than to use a physic that will act promptly, for which we recommend from three to six of Dr. Pierce's Pleasant Pellets. These should be taken immediately upon the first symptoms of the trouble being manifest. Afterwards with them should be taken one of Dr. Pierce's An-uric Kidney Tablets; every two hours the Kidney Tablets should be repeated in doses of one or two, with a glass of water either hot or cold, as may be most agreeable. Hot lemonades are particularly helpful, as the acid of the lemon tends to counteract some of the poisons and renders more efficient and rapid the beneficial effects of the Kidney Tablets. They contain certain ingredients that are in use by the profession as the most effective general antiseptics. These agents penetrate thru the blood all the tissues of the body, and their remedial influence is felt in every organ.

Nearly every individual has some sure cure for a cold.

We earnestly request that this remedy and treatment be given a trial, feeling satisfied that it will be found the most agreeable and effective of any. During the treatment of a cold the diet should be light—foods that are easily digested and that agree with the delicate stomach. Drafts should be avoided, and exposure, and over-doing should be carefully shunned, also exposure to the air of rooms that are over-crowded. Moderately dry air is best. Hot foot-baths on retiring are beneficial.

This treatment should be kept up several days, so as to not only get rid of all the poisons that are circulating in the system but, also, to build up and strengthen and restore the general health and vigor.

CATARRH OF THE LUNGS.

Catarrh of the Lungs. The mucous membranes of the nose, throat and lungs try to help take out the irritating urinary substances that they are unfitted to remove, and, when the kidneys are weak or helpless, these mucous membranes become irritated by these poisons, causing catarrh and bronchitis, and sometimes pneumonia.

STOMACH TROUBLE.

Stomach Trouble. If the kidneys are weak the stomach tries to help, and its digestive juices become charged with urinary poisons, and digestion is upset and interfered with; that great train of symptoms, beginning with heaviness and indigestion, and ending in stomach ulcer and chronic dyspepsia, follows.

In all these conditions the action of the Kidney Tablets will be found to help and assist the kidneys to do their work, thus relieving all the other organs.

INFECTIOUS DISEASES.

"In all infectious diseases the kidneys are required not only to eliminate the ordinary waste products of the body which usually escape in this way, but, in addition, the increased waste produced by the fever, and the poisons produced directly and indirectly by the growth of the invading micro-organism. It is essential, therefore, that the patient shall pass urine in sufficient amount to carry off these substances." (Hare Therapeutics).

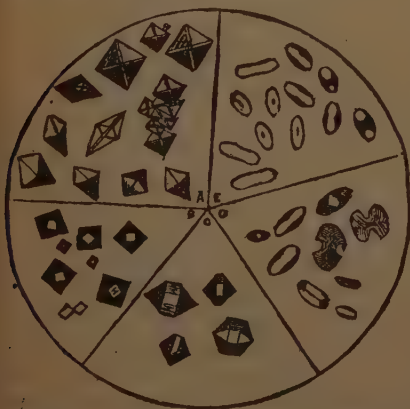
Special advice may be had by writing to Dr. Pierce's Invalids' Hotel, Buffalo, N. Y.

WHY WE HAVE PLACED THEM WITH THE DRUGGISTS FOR PUBLIC SALE.

For many years our physicians have been using Dr. Pierce's Kidney Tablets for the relief of overworked and weakened kidneys. The relief obtained from their use by sufferers has been so satisfactory that we determined to place them with the druggists where they could be used by the public generally.

As they can be purchased at any drug store in the United States, Canada, or are sent by mail anywhere, every one who is afflicted with any form of urinary disease has at command reliable remedies which are sure to be of material service. No one will go astray by using them at least until consulting us, or until the necessity for other treatment is unmistakable.

The ingredients are mostly vegetable remedies that act upon the secreting cells of the kidneys and thus expel from the system poisons that circulate through the blood, injure and more or less upset all the functions of the various organs of the body. The "Tablets" are not harmful, nor poisonous, but act kindly by expelling those poisons from the body that should be thrown off naturally. **They aid Nature.**



Highly magnified urinary deposits, which indicate impairment of the digestive functions, are represented. The crystals are composed of oxalate of lime and appear in the different forms shown in the five sections, of octahedral, decahedral, round and dumb-bell shapes. The latter are formed in the kidneys, and are sometimes discovered adhering to casts.

Kidney Disease is the most frequent cause of rejection of seekers for **life insurance**. The first test of an examiner is to determine if the kidneys are healthy, because life is short when these organs are diseased.

WHAT OTHERS SAY OF THEM.

Other physicians use these ingredients and the following extracts from their writings show how highly they regard the remedial effects:

Finley Ellingwood, M. D., the eminent writer on *Materia Medica* and *Therapeutics*, says, of one of the components of this remedy: "It is directly a renal depurant, greatly increasing the amount of solids in the urine by stimulating both the excretion and secretions. It has but little influence upon the excretion of the watery portion of the urine. It promotes retrograde metabolism throughout the system, and increases waste, thus acting as a direct alterative. This is plainly apparent when the sudoriferous (sweat) glands are inactive and the skin becomes rough and coarse, for pimples, pustules, or other skin disease is present.

"It stimulates excretion rapidly by the kidneys, and relieves the irritation of the skin promptly, and greatly facilitates the cure of these conditions. This agent may be used instead of the iodide of potash, as an alterative in eczema and other skin diseases of childhood, and will be found a valuable remedy."

Glandular Diseases: This simple remedy, combined with vegetable alteratives, will often produce all of the good effects with none of the unpleasant results of the iodides. In glandular inflammation it is a valuable agent. (Note). We have found it particularly valuable for diminution of enlargement of the prostate gland. If given in full doses in the first stages of mastitis (inflamed breasts), ovaritis (inflamed ovaries) or arthritis (inflamed joints), it will often abate the disease within eighteen hours. It is most reliable. If the kidneys are normal it will hasten the removal of morbid (poisonous) products in all acute inflammations. It is best given with abundance of water, that solid waste accumulated in the kidneys may be fully diluted. It neutralizes excessive acidity.

It has been much used in rheumatism, and is the best remedy where the stomach is sensitive. In lithemia (uric acid) its influence is most direct. The dosage prescribed in these cases is usually too large. It works satisfactorily if given in small doses (such as contained in this tablet), quickly relieving the aching in the back so common to this condition, and promoting clear and normal urine, reducing instead of increasing the specific gravity.

It acts upon the liver promptly, stimulating the flow of bile, and overcoming hepatic congestion. It has long been used in jaundice, and exercises a desirable influence upon the glands

of the entire intestinal tract. It is a remedy for boils, and other skin eruptions, and will be found valuable in carbuncle as an active eliminative.

In King's American Dispensatory, by Doctors Felter and Lloyd, the following statement is made: "In a little water, and the dose repeated three times a day, I found it very efficient in removing aching pain. It lessens the scalding of inflammation of the urethra. Urinal incontinence is relieved by it. It is indicated in scanty urine with difficult breathing, excessive tenderness of the urinary organs."

Dr. Hare, in his work, "A Text Book of Practical Therapeutics," states: "This remedy is eliminated by the kidneys. Increase in the elimination of uric acid, when it is given, is due to an increased activity of tissue change, produced by the drug. The remedy was found to be of superlative value in rheumatism, in which disease it is supposed to destroy the specific micro-organism. Its value is to relieve the pain and to cure the malady. The remedy should be continued many days after all symptoms cease.

"In St. Vitus' Dance which is associated with rheumatism, it is a better drug than arsenic. It is very useful in lumbago, sciatica and similar states, and often curing the headaches of rheumatic persons." Dr. Brunton highly recommends it for the nervous irritability of gouty and lethemetic persons. It has been largely used for the removal of pleural effusions (dropsy of lungs), if the effusion be serious.

In quinsy or true tonsillitis it will often prevent suppuration, shorten the attacks, and relieve the pain and swelling.

Of another ingredient of the An-uric Kidney Tablet, Dr. Lloyd states, "In chronic affections of the kidneys and urinary passages it is useful. In catarrh of the bladder, chronic inflammations, strangury, the 'whites,' and excessive mucous and bloody discharges with the urine, it is helpful. It is always indicated in feeble circulation and lack of enervation in the urinary tract.

"It undoubtedly lessens the rheumatic deposits in the urine. Spasm of the bladder is relieved by it, and when calculi are present, relieves the sensitiveness of the bladder mucous membrane to such an extent that the stone is comfortably borne. It is also a remedy for bloody urine where small in amount, and in chronic affections of the larynx, bronchi, and pulmonary tissue, with excretion and cough. Its specific indications are for relaxation of the urinary tract, with pain and mucous, or bloody secretions, feeling of weight and dragging in the loins, and chronic irritation of the bladder with pain and catarrhal discharges."

**From a Systemic Treatise on Materia Medica and
Therapeutics, Ellingwood.**

It is certainly an excellent heart tonic, improving the strength of the heart muscles, and it strengthens the nerve force, improves respiration (breathing) and facilitates oxidation of the blood. It produces a greatly increased flow of limpid urine without irritating the kidneys. Dropsy is a condition for which this agent should be used, if puffiness of the face, under the eyes, puffiness of the hands.

Dropsy caused by defective kidney action yields first. In acute inflammation of the kidney it is prompt in its action. Dropsy dependent upon feeble heart with impaired blood pressure and deficient capillary action is fully marked. In the latter stages of heart disease, where fluid forms around the heart, or with other local or general effusions, it is prompt and efficient in its action, as it most materially strengthens the heart and improves the character of the circulation, while it removes the dropsy.

It relieves relaxed or flabby tissues, anemia, and a tendency to hemorrhage. It has considerable reputation in the control of passive bleeding. It cures many stubborn intractable and very severe cases of sciatica.

Lloyd and Felter, in King's American Dispensatory, state: "It is the most certain diuretic in materia medica. Cases calling for it are those of debility and it is a good remedy for depression, attending old cases of scrofula and atonic dyspepsia, and fulfils an important use in removing constipation and fluid accumulations when present.

"Rheumatism yields to it, when a swelling of a part or whole of the body is present, or even where there is slight puffiness or glistening of the parts. It is a decided heart stimulant and has relieved the heart oppression due to smoking. It is also a decided anti-neuralgic, relieving sciatic, pleural and lumbar neuralgia. The most valuable remedy to relieve renal congestion or inflammation. It is one of the best remedies for acute inflammation of the upper passages of the nose and throat."

Kidney Disease is the most frequent cause of rejection of seekers for life insurance. The first test of an examiner is to determine if the kidneys are healthy, because life is short when these organs are diseased.

FOOD VALUES.

The table of food values in this list is a guide to the composition of common nutritious elements of human diet.

The three great food elements are:

1st. Protein, of which the most commonly known example is the albumen of egg and beef.

2nd. Fat.

3rd. Starches and sugars, generally called carbohydrates.

Fats may largely replace the starches and sugars in the diet of diabetics with benefit. A certain small amount of starches, as much as the system can use up, without producing sugar in the urine, will be found beneficial. Curiously the greater the quantity of sugars and starches consumed by diabetics the greater is the gnawing hunger, thirst and weakness. These foods, starches and sugars, must be reduced and much less taken when there is dryness of the mouth, gnawing hunger, and excessive thirst.

Diabetics should choose foods containing low proportions of starch and sugar.

FOODS	Parts per Hundred.		
	Protein	Fat	Starch and Sugar
MEATS, EDIBLE PORTION:			
Beef, average.....	17.1	27.3	...
" cooked	27.5	15.5	...
" ribs, raw.....	13.9	21.2	...
" sirloin, raw....	16.5	16.2	...
" rump, raw.....	13.8	20.2	...
Corned beef.....	14.3	23.8	...
Pickled tongue.....	12.0	19.2	...
Salted or smoked beef	26.5	6.9	...
Veal, average.....	19.5	5.4	...
Veal cutlets.....	20.1	7.5	...
Mutton, average.....	18.1	7.7	...
" roast	25.0	22.6	...
Lamb, leg.....	16.0	13.6	...
" breast	15.5	19.0	...
Venison	19.2	1.3	...
Pork, lean.....	19.9	6.8	...
" fat	14.5	37.3	...
" loin chop.....	13.4	24.2	...
Smoked bacon.....	9.1	62.2	...
" ham	14.2	33.4	...
" shoulder ...	13.0	26.6	...
Salt bacon, fat.....	1.9	86.2	...
Sausage, pork.....	13.0	44.2	...
Sausage, German....	18.2	19.7	...
Tripe	13.2	16.4	...
Brain	8.8	9.3	...
Liver—liver may contain 13 per cent. carbohydrates	22.5	4.2	2.5

FOODS	Parts per Hundred.		
	Protein	Fat	Starch and Sugar
Sweetbread	16.8	12.1	...
Kidney	16.6	4.8	0.4

POULTRY, MEAT ONLY:

Fowls, chicken.....	22.7	10.1	...
" capon	21.6	22.1	...
" broiler	22.8	8.8	...
Pheasant	24.7	4.6	...
Partridge	25.3	1.5	...
Turkey, light meat...	25.7	9.4	...
" dark meat	21.4	20.6	...
Duck, breast	22.3	2.3	...
" other meat	17.4	26.1	...
Goose	16.22	31.5	...
Goose, very fat.....	15.8	45.6	...
Pigeon	22.9	12.1	...
Quail	25.4	7.0	...
Squab, cormorant ...	18.5	23.8	...
Guinea-hen	23.4	6.5	...
Canned turkey	20.7	29.2	...
" chicken	27.7	12.8	...
" quail	21.8	88.0	1.7

SOUP:

Beef	4.4	0.4	1.1
Tomato	1.8	1.1	5.6
Gumbo, canned	2.4	0.2	4.6
Chicken, canned	2.9	3.3	5.1
Meat stew	4.6	4.3	5.5
Beef tea	6.1	0.3	1.0
Pea soup	3.6	0.7	7.6
Oxtail soup	4.0	1.3	4.3
Turtle	6.1	1.0	3.9

FOODS	Parts per Hundred.		
	Protein	Fat	Starch and Sugar
DAIRY PRODUCE:			
Cow's milk	4.0	4.0	4.5
Skimmed milk	3.4	0.5	5.1
Buttermilk	3.8	1.2	3.3
Milk powder	90.0	...	...
Cream, medium	2.5	18.0	4.5
“ clotted	6.1	56.2	2.5
Butter	2.5	85.0	...
Margarine	1.0	82.2	...
Cheese, American	30.8	27.7	...
“ Stilton	36.3	45.8	...
“ Roquefort	28.3	30.3	...
“ Camembert	21.8	31.9	...

AMPHIBIA, EDIBLE PART:

Frog's legs	10.2	0.1	...
Terrapin	21.0	3.0	...
Green turtle	18.2	0.5	...
Lobster	18.1	1.1	0.6
Crab	15.8	1.5	0.8
Crawfish	16.0	0.8	0.8
Shrimps	25.4	1.0	0.2
Oysters	5.0	1.3	5.3
Clams	10.6	1.1	5.2
Scallops	14.7	0.2	3.4
Mussels	8.8	1.0	4.2

FRESH FISH, EDIBLE PART:

Bass, sea	19.8	0.5	...
Black fish	18.7	1.3	...
Blue fish	19.4	1.2	...
Catfish	14.4	20.6	...
Cisco	18.5	6.8	...
Cod	16.5	0.4	...
Eels	18.6	9.1	...
Flounders	14.2	0.6	...
Haddock	17.2	0.3	...
Halibut steaks	18.6	5.2	...
Herring	19.5	0.9	...
Kingfish	18.9	0.9	...
Lamprey	15.0	13.3	...
Mucketel	18.7	7.1	...
Perch, white	19.3	4.0	...
“ yellow	18.7	0.8	...
Pickarel-pike	18.7	0.5	...
Pike, gray	17.9	0.8	...
Pompano	18.8	7.5	...
Porgy	18.6	5.1	...
Red grouper	19.3	0.6	...
Red snapper	19.7	1.0	...
Salmon	22.0	12.8	...
Shad	18.8	9.5	...
Sheepshead	20.1	3.7	...
Skate	18.2	1.4	...
Smelt	17.6	1.8	...

FOODS	Parts per Hundred.		
	Protein	Fat	Starch and Sugar
Sole, plaice	11.0	1.0	...
Sturgeon	18.1	1.9	...
Tomcod	17.2	0.4	...
Trout, brook	19.2	2.1	...
“ lake or salmon	17.8	10.3	...
Turbot	14.8	14.4	...
Weakfish	17.8	2.4	...
Whitefish	22.9	6.5	...
Fish roe, shad	20.9	3.8	...

CEREALS, ETC.:

Sugar, loaf or granulated .....	...	...	96.5
Molasses, sugar cane .....	...	...	70.0
Maple syrup .....	...	...	71.4
Candy, plain sweets .....	...	...	96.0
Honey	0.4	...	75.0
Extract of malt	6.39	...	70.0
Starch .....	...	...	90.0
Arrowroot	0.8	...	83.3
Wheat flour, high grade	11.4	1.0	75.0
Wheat flour, low grade	14.0	1.9	71.2
Entire wheat flour	13.8	1.9	71.9
Graham flour	13.3	2.2	71.4
Wheat breakfastfood	12.1	1.8	75.2
White bread	6.8	0.7	52.3
Brown bread	5.4	1.8	47.1
Graham bread	8.9	1.8	52.1
Whole-wheat bread	6.7	0.9	49.7
Rolls, French	8.5	2.5	55.7
Sweet Cake	6.3	9.0	63.0
Biscuit, crackers	11.3	10.5	70.5
Zwieback	9.8	9.9	73.5
Rye meal	6.8	0.9	78.9
Rye bread	6.0	0.5	48.0
Corn meal, golden	14.0	3.8	70.6
Corn meal, common	9.2	1.9	75.4
Hominy, cooked	2.2	0.2	17.8
Corn bread, (Johnny cake)	7.9	4.7	46.3
Corn flour	7.1	1.3	78.4
Oatmeal	15.5	10.5	63.0
Rolled oats	12.6	7.2	64.0
Oat breakfast food	16.7	7.3	66.2
Oatmeal gruel, (watery)	1.2	0.4	6.3
Buckwheat flour	6.4	1.2	77.9
Rice	5.0	0.8	83.2
Sago, tapioca	0.4	0.1	88.0
Vermicelli	10.9	2.0	72.0
Macaroni	13.4	0.9	74.1
Barley, pearl	8.5	1.1	77.8
Banana flour	3.5	1.5	81.6
Prepared cocoa	21.34	28.12	40.8

Parts per Hundred.
Starch
and
Sugar

FOODS	Protein	Fat	Starch and Sugar
DRIED LEGUMES:			
Haricot beans	18.0	1.7	60.0
Navy beans	22.5	1.5	59.6
Soy-beans	41.0	13.0	30.0
Lentils	22.5	1.0	59.0
Peas	22.0	1.0	58.5
Pea meal	27.5	1.3	56.7
Peanuts	25.8	38.6	24.4
Ground nuts	21.8	51.7	17.6
Frijoles	21.9	1.3	65.1

FRESH LEGUMES:

Green peas	6.06	0.5	14.03
Green beans	2.04	0.3	5.99
Butter beans	4.8	0.3	14.6
Shelled beans	7.1	0.5	25.0

EGGS WITHOUT SHELL:

Hen	13.5	11.6	...
Duck	13.3	14.5	...
Goose	13.8	14.4	...
Turkey	13.4	11.2	...
Plover	19.7	11.7	...

TUBERS AND ROOTS:

Potatoes	1.9	0.2	22.0
Sweet potatoes	1.5	0.6	26.0
Jerusalem artichokes	3.0	...	14.0
Parsnips	2.1	0.5	12.5
Carrots	1.0	0.2	10.1
Turnips	0.9	0.1	6.1
Beetroot	1.3	0.04	18.6
Salsify	1.3	0.4	10.8
Radishes	0.9	0.1	4.0

VEGETABLES:

Cabbage	1.8	0.2	5.0
Cauliflower	2.5	0.3	4.9
Brussels-sprouts	4.8	0.4	6.2
Spinach	3.1	0.5	3.5
Squash	0.7	0.2	4.5
Pumpkin and marrow	1.0	0.1	5.2
Asparagus	1.9	0.3	2.8
Tomatoes	0.9	0.4	4.0
Green Corn	3.1	1.1	19.7
Mushrooms	2.5	0.4	6.0
Truffles	8.9	0.6	7.5
Onions	1.5	0.1	10.9
Leeks	1.2	0.5	5.8
Celery	1.5	0.4	3.1
Lettuce	1.4	0.3	2.5
Cucumber	0.8	0.2	2.5
Watercress	4.2	0.5	6.5
Rhubarb	0.4	0.4	2.2
Canned tomato	1.2	0.2	4.0

Parts per Hundred.
Starch
and
Sugar

FOODS	Protein	Fat	Starch and Sugar
Canned green corn...	2.8	1.2	19.6
Canned baked beans..	6.9	2.5	19.3
Canned green peas...	2.8	1.2	9.8
Canned succotash	3.6	1.0	18.6
Sauerkraut	1.7	0.5	3.8

FRUIT:

Apples, average.....	0.4	0.5	12.5
Rienheim orange.....	0.4	0.3	15.5
Cooking apples.....	0.6	0.4	10.9
Pears	0.4	0.6	11.5
Plums	0.7	...	15.0
Greengages	0.4	...	13.5
Prunes, French.....	0.4	...	8.2
Prunes, California....	0.8	...	18.5
Apricots	0.5	...	11.0
Peaches	0.6	0.1	11.5
Nectarines	0.6	...	15.6
Olives	1.4	21.0	3.5
Cherries	0.7	8.0	11.1
Grapes	1.0	1.0	15.5
Grapes, sweet.....	0.6	1.0	25.1
Strawberries	1.1	0.5	6.5
Raspberries	0.5	...	5.5
Blackberries	0.9	2.0	6.0
Bilberries	0.7	...	5.8
Whortleberries	0.7	3.0	5.8
Mulberries	0.3	...	11.5
Black currants	0.4	...	7.9
Gooseberries	0.07	0.5	8.5
Cranberries	0.5	0.7	4.0
Melons	0.8	0.36	7.5
Water-melon	0.4	0.1	6.5
Pineapple	0.5	0.3	10.0
Bananas	1.5	0.6	21.0
Oranges	0.9	0.5	7.6
Lemons	1.0	0.8	7.9
Dried apples.....	1.4	3.0	49.1
Dried figs.....	5.5	0.9	65.0
Dried prunes.....	2.5	0.8	66.1
Dried dates.....	4.6	2.0	66.0
Dried raisins.....	2.3	4.8	75.1
Dried currants.....	1.4	2.9	64.9

NUTS, EDIBLE PORTION:

Brazil nuts.....	15.3	65.0	7.4
Almond nuts.....	21.0	54.9	17.1
Filbert nuts.....	15.5	65.2	18.0
Walnuts	16.7	46.5	14.9
Butternuts	28.0	61.1	3.5
Chestnuts, fresh.....	6.2	5.5	42.2
Cocoanut	5.7	50.5	27.7
Pecan	11.0	71.2	18.2
Peanuts, raw.....	25.7	28.6	24.2
Peanuts, roasted.....	30.5	49.2	16.2

A P P E N D I X

World's Dispensary Medical Association

Incorporated under Statute Enacted by the Legislature of New York

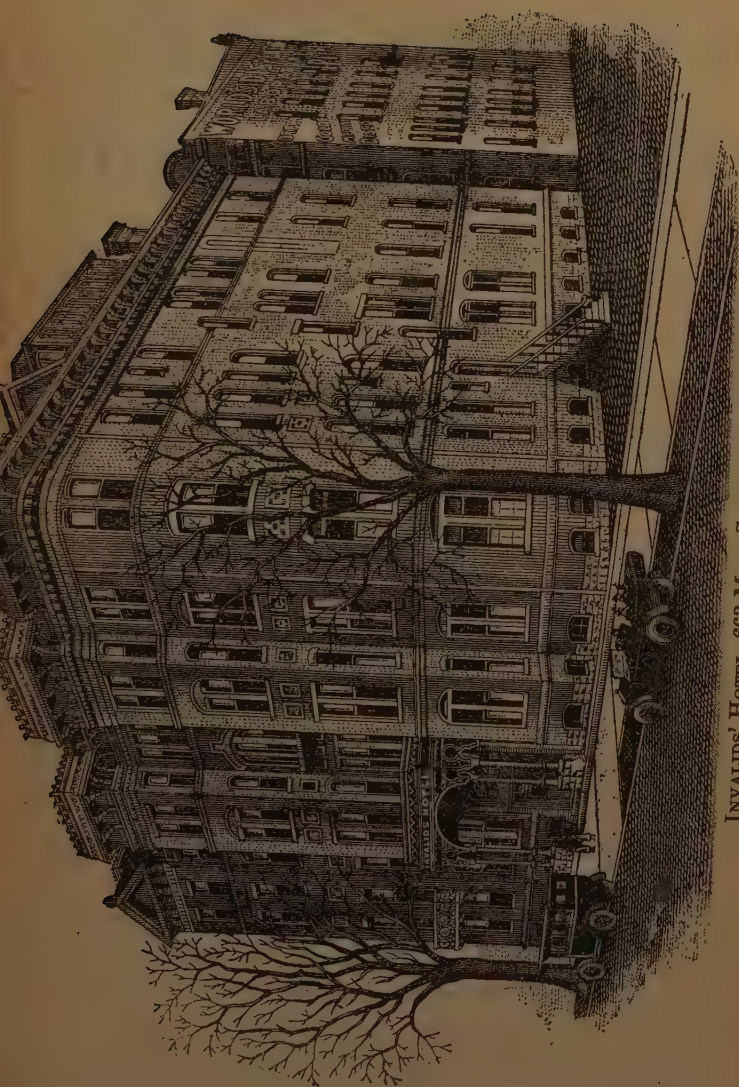
Having acquired a world-wide reputation in the treatment of Chronic Diseases, resulting in a professional business far exceeding his individual ability to conduct, some years ago the founder of the Invalids Hotel induced several Physicians and Surgeons of high professional standing to associate themselves with him as the Faculty of the World's Dispensary Medical Association, the Consulting Department of which now constitutes the Faculty of Dr. Pierce's Invalids Hotel. The organization is duly incorporated under a statute enacted by the Legislature of the State of New York, and under the name and style of the

"WORLD'S DISPENSARY MEDICAL ASSOCIATION,"
of which Dr. V. M. PIERCE is now the President.

LOCATION

The foresight of the founder of the Invalids Hotel led him to select the city of Buffalo, at the end of Lake Erie, as the place for the expansion of his ideas and for the development of the great Institution which is pictured on the opposite page. The single fact that Buffalo has always been noted as a healthy city argued strongly in its behalf.

The site selected by Doctor Pierce is, at the present day, well within the business heart of Buffalo and is easily reached from all depots, either by street car or taxi service.



INVALIDS' HOTEL, 663 MAIN STREET, BUFFALO, N. Y.

THE
Invalids' Hotel
AND
Surgical Institute

*SOME OF THE CAUSES THAT
LED TO ITS ERECTION.*

ITS MANY ADVANTAGES.

In Dr. Pierce's Invalids' Hotel and Surgical Institute are many physicians. Each one is a specialist in some particular branch, and after the patient is carefully questioned the case is then assigned to the doctor who, in Dr. Pierce's judgment, can do best in that department of medical practice. With this specialist the patient advises and consults and has the benefit of his skilled opinion. A hundred years ago the doctor and barber were combined in one man and both were spillers of blood. To-day medicine and surgery have reached the point of being a fine art. Each operation in surgery requires a distinct and peculiar skill. The ordinary family practitioner attempts everything. The country doctor, with a case of instruments and a case of medicines, looks after the children with the measles, extracts teeth, amputates limbs and prescribes for all the ailments to which flesh is heir.

Modern life has evolved the specialist. This plan of specialization reaches the point of the highest possible medical efficiency. The operators at the Invalids' Hotel work surely, and they work rapidly; also, they work painlessly.

There is no charge for consultation. Each case is carefully considered. A specialist consults with you, and then tells you what he thinks should be done. After such consultation you may have your case taken care of at the Invalids' Hotel, or at your home if it is believed that you can be benefited by "home treatment."

Dr. Pierce is a common sense business man, as well as benefactor. He knows that most all things in life average about right, that where we honestly try to help humanity we benefit ourselves. He does not figure on how much he can make out of a patient. All the physicians and surgeons in his Institution work on stated salaries so there is no temptation for them to prolong their work to enlarge the fees. In fact the natural inclination is for a specialist to cure the patient in as short a time as is consistent with good treatment, and in this way make room for another patient. This Institution is always well filled with patients and rarely are there any vacant rooms.

The method pursued at the Invalids' Hotel would interest any visitor, and all visitors are made welcome. The visitor here finds that there are more than a dozen physicians, each chosen for his skill along certain lines, and through a system of constant co-operation and consultation they are able to give the public an ideal service. All doctors cannot use the knife. Some can successfully treat invalid women. Others have mechanical and scientific skill in the operating room. The Staff at the Invalids' Hotel consists of both surgeons and specialists. But no one is treated surgically who can possibly be benefited or cured without the use of the knife. It has been a rule laid down by Dr. Pierce, that an operation shall only be determined upon when there is every reason to believe that a cure is impossible with medicines or electricity. You will not find any one of our surgeons insisting upon performing an operation simply because he can charge many times a physician's regular fee.

A REMEDIAL HOME.

Of the 117,000,000 people living in the United States today, it is estimated that over twelve millions are sufferers from chronic disease. Think for a moment! Increasing millions of people slowly but surely dying by the insidious and fatal development of chronic diseases! This is an appalling fact. Yet this is the very class of diseases with which the general practitioner is least familiar.

As a practitioner of the healing art, fresh from curriculum, the founder of this Institution early realized that the great, unpardonable fault or error of the medical profession was the neglect to more thoroughly study and investigate this class of diseases.

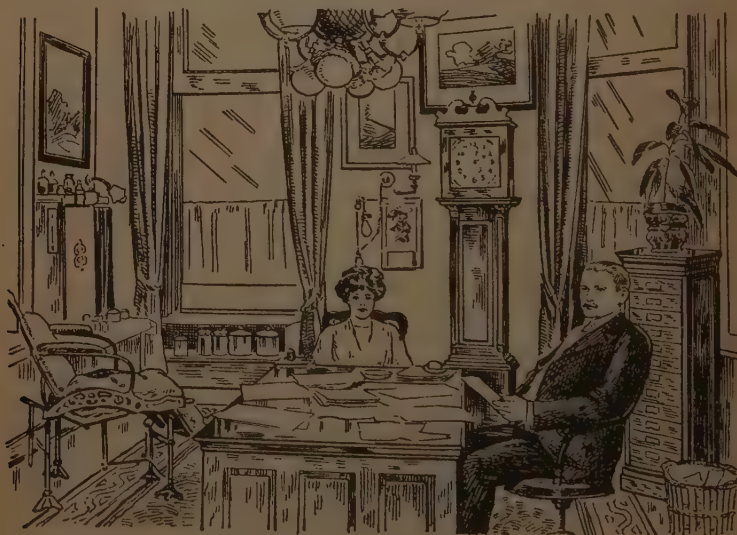
The profession is diligently cauterizing and poulticing the

sores which now and then appear on the surface, but the internal chronic disease, of which these are merely the external signs, is too often overlooked or neglected.

Some years ago we devised and put into practical operation a method of

TREATING PATIENTS AT THEIR HOMES,

without requiring them to undergo personal examinations. We reasoned that the physician has abundant opportunity to accurately determine the nature of most chronic diseases without ever



THE HEAD SURGEON'S OFFICE.

seeing the patient. In substantiating that proposition, we cited the perfect *accuracy* with which scientists are enabled to deduce the most minute particulars in their several departments, which appears almost miraculous if we view the subject in the light of the early ages. Take, for example, the electro-magnetic telegraph, the greatest invention of the age. Is it not a marvelous degree of accuracy which enables an operator to *exactly* locate a fracture in a sub-marine cable nearly three thousand miles long? Our venerable "clerk of the weather" has become so thoroughly familiar with the most wayward elements of nature that he can accurately predict their movements. He can sit in Washington and foretell what the weather will be in Florida or

New York, as well as if hundreds of miles did not intervene between him and the places named. And so in all departments of modern science, what is required is the knowledge of certain *signs*. From these, scientists deduce accurate conclusions regardless of distance. A few fossils sent to the expert geologist enable him to accurately determine the rock-formation from which they were taken. This he can describe as perfectly as if a cleft of it were lying on his table. So also the chemist can determine the constitution of the sun as accurately as if that luminary were not ninety-five million miles from his laboratory. The sun sends certain *signs* over the "infinite of space," which the chemist classifies by passing them through the spectroscope. Only the presence of certain substances could produce these solar signs.



So, also, in medical science, *disease has certain unmistakable signs*, or symptoms. By reason of this fact, we have been enabled to originate and perfect a system of accurately determining the nature of chronic diseases without seeing and personally examining our patients. In recognizing diseases without a personal examination of the patient, we claim to possess no miraculous powers. We obtain our knowledge of the patient's disease by the practical application of well-established principles of modern science to the practice of medicine. And it is to the accuracy with which this system has endowed us that we owe our almost world-wide reputation for the skillful treatment of all lingering, or chronic, affections. This system of practice, with the marvelous success which has been attained through it, demonstrates the fact that diseases display certain phenomena, which, being subjected to scientific analysis, furnish abundant and unmistakable data to guide the judgment of the skillful practitioner aright in determining the nature of diseased conditions.

So successful has been this method of treating patients at a distance that there is scarcely a city or a village in the United States that is not represented by one or more cases upon the "Records of Practice" at the Invalids' Hotel and Surgical Institute. In all chronic diseases that are curable by medical treatment, it is only in very rare cases that we cannot do as well for the patient while he or she remains at home, as we could if here

under personal supervision. But we annually treat hundreds of cases requiring surgical operations and careful after-treatment, and in these cases our Invalids' Hotel, or home, is indispensable. Here the patient has the services not only of the most skillful surgeons, but also, what is quite as necessary in the after-treatment, of thoroughly trained and skilled nurses.

SITUATION

The location of the Invalids' Hotel and Surgical Institute is ideal. Buffalo is a city of 545,273 population. It is situated in



McKINLEY MONUMENT — NIAGARA SQUARE, BUFFALO, N. Y.

the western part of New York State, on the eastern shore of Lake Erie, at the mouth of the Niagara River. It is on the principal route from the East to the West, and this has been the thoroughfare for a century. It is a great railroad center.

The climate is salubrious. In the winter the thermometer seldom reaches zero. If you will look at a map you will see that a line drawn from Buffalo to Duluth, passes over a region well covered with great lakes, and this northwest line is the direction of the prevailing winds. There may be more clouds than in some other places, but clouds help to warm in winter and

shield from excessive heat in summer. There is, however, an abundance of sunlight. The fall weather is especially charming. Storms, rains and snowfalls are always greater ten to fifty miles outside the city than in it. It is sometimes called the "breezy city," but the velocity of the wind never equals that of other lake cities, and is often much lower than in New York City. The winds are welcome during the summer.

The Institution is located in the city. It is within ten minutes' walk of the shopping district. Trolley cars on several routes pass the door, and by using a "transfer," which is free and given upon request when paying the fare, distant parts of the city, the parks, depots, boat landings and suburbs can easily be reached.

Buffalo is called the Queen City of the Lakes. Here Lake Erie empties into the historic Niagara River which carries on her bosom, swiftly flowing onward, the waters of the Great Lakes, Superior, Huron, Michigan and Erie, plunging 22 miles below over the great Falls of Niagara, then through the lower rapids and whirlpool to emerge at Lewiston into the deep flowing Niagara from whence steamboats convey tourists across Lake Ontario to Toronto, a delightful ride.

NIAGARA FALLS, ONE OF NATURE'S GREATEST WONDERS,

is distant but an hour's trolley ride, or but forty-five minutes by the steam cars. People from all parts of the world visit this magnificent cataract. A visit to Buffalo should never be planned without including this trip. Can you comprehend a cubic mile of water, a mile long, a mile wide and a mile deep? Hardly. This is the estimated quantity of water that flows over the brink every week. It is just as incomprehensible when stated in a commercial way—a matter of three million horsepower per hour. Niagara Falls is the greatest falls in the world when volume of water is considered. It is ever changing in its charms and beauties, in its clouds of spray, its rainbows, its light and shade—with the position of the sun or moon, the deviation in the direction of the wind, the condition of the atmosphere, with the variation of seasons; but ever and always is sublime. The sight may dwarf your idea of the importance and significance of man, but it will certainly augment your appreciation of the power and majesty of the Creator. There have

been many attempts at description of its grandeur and its effects upon the mind of the beholder, but one and all have given up in despair or signally failed. Nor do paintings, photographs or the cyclorama help much. It may represent a part



NIAGARA FALLS—AMERICAN SIDE.

for the fraction of a second. We miss the motion, the very life, so to speak, and there is wanting the prominent characteristic which moved the Indian to name it Niahgahra, "The Thunderer of the Waters." Each one has to see it with his own eyes and experience his own impressions and emotions.

A GENUINE HOME.

In erecting the Invalids' Hotel and Surgical Institute, our paramount design was to make it a genuine home—not a *hospital*—a home where the child of fortune would miss none of the comforts of a palatial home, while the poor man would find not only health but his pleasures multiplied a thousand fold.

OUR TERMS MODERATE.

The wholesale merchant's prices are far less than those of the retail dealer. He can afford it, his sales are so much larger. It

Any sick person may consult our faculty by letter absolutely free. While consultation and advice at the Invalids' Hotel, Buffalo, N. Y., are absolutely FREE there is a CHARGE for careful, painstaking examination, tests by X-ray, Blood Count, Analysis, etc., merely to cover the cost of the different doctors' time and the materials used.

is on precisely the same principle that we are able to make the rates at the Invalids' Hotel and Surgical Institute comparatively low. If we had only a limited number of

patients, we should be obliged to make the charges commensurate with our expenses; but our practice having become very extensive, and the income being correspondingly large, we are enabled to make the rates at the Invalids' Hotel and Surgical Institute so moderate that all who desire can avail themselves of its medical, surgical, and hygienic advantages.

FACILITIES FOR TREATMENT.

Of the many advantages afforded by the Invalids' Hotel and Surgical Institute in treating disease, we can make only brief mention of a few of the more prominent.

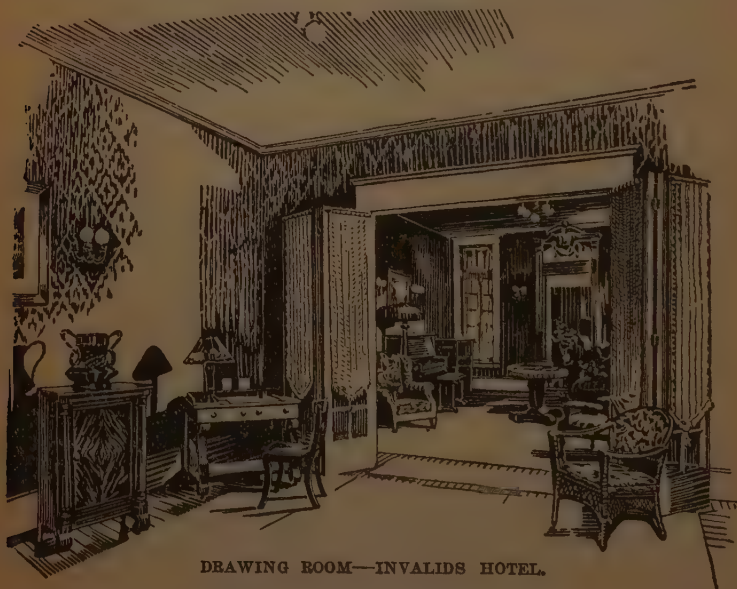
DIVISION OF PRACTICE.

In the examination and treatment of patients, our practice is divided into specialties. Each member of the Faculty, although educated to practice in *all* departments of medicine and surgery, is here assigned to a special department only, to which he devotes his entire time, study and attention.

***If you do not find just the advice
you desire, write Dr. Pierce con-
fidentially. Consultation free.***

ADVANTAGES OF SPECIALTIES.

The division-of-labor system proves equally effectual in the practice of most of the professions. The legal profession has long been conducted in this manner. One lawyer devotes his attention specially to criminal law, and distinguishes himself in this department. Another develops a special faculty for unraveling knotty questions in matters of real estate, and, if a title is to be proved, or a deed annulled, he is the preferred coun-



DRAWING ROOM—INVALIDS HOTEL.

selor. In a certain manner, too, this has long been practiced by the medical profession. Thus some physicians (and we may add physicians who call themselves "regular," and are specially caustic in their denunciation of "advertising doctors") are accustomed to distribute cards among their patrons, certifying that they give special attention to diseases of women and children. In this Institution each physician and surgeon is assigned a special department of medicine or surgery. By constant study and attention to his department, each has become a skillful specialist, readily detecting every phase and complication of the diseases referred to him. Not only is superior skill thus attained, but also *rapidity* and *accuracy* in diagnosis.

Thoroughness and efficiency in any branch of learning can be secured only by devoting to it special study and attention. When the faculty of a university is to be chosen, how are its members selected? For instance, how is the chair of astronomy filled? Do they choose the man who is celebrated for his general scholastic attainments, or do they not rather confer it upon one who is known to have devoted special attention and study to the science of astronomy, and is, therefore, especially qualified to explain its theories and principles? Thus all the several chairs are filled by gentlemen whose general scholarship not only is known to be of the highest standard, but who devote special attention to the departments assigned them, thus becoming proficient specialists therein. The same system of specialties is observed in the departments of a medical college. The professor who would assume to lecture in all the departments with equal ease and proficiency would be severely ridiculed by his colleagues; and yet it is just as absurd to suppose that the general practitioner can keep himself informed of the many new methods of treatment that are being constantly devised and adopted in the several departments of medicine and surgery.



PROGRESS IN MEDICINE.

In no other science is more rapid and real progress being made at the present time than in that of medicine. Even the specialist must be studious and earnest in his work to keep himself well and accurately informed of the progress made in his department. Thus it so often happens that the general practitioner pursues old methods of treatment which science has long since replaced with others acknowledged to be superior. The specialist, on the contrary, by confining his studies and researches to one class of diseases only, is enabled to inform himself thoroughly and accurately on all the improvements made in the methods and means of practice in his special department.

The difference between the practice of specialists and that of general practitioners is aptly illustrated by the difference between the old-fashioned district school, in which the school-master taught all the branches, from a-b-abs to the solution of unknown quantities and the charmed mysteries of philosophy, and the modern seminary, with its efficient corps of teachers, each

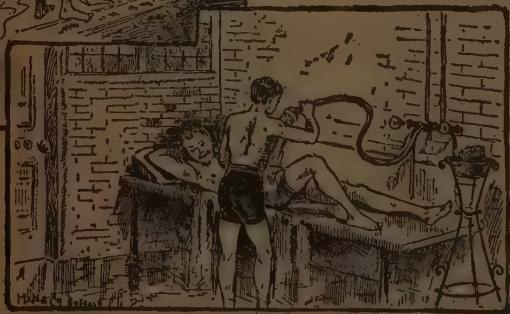
devoting his or her whole attention to the study and teaching of one special department of learning.

We attribute the success which has attended the practice at the Invalids' Hotel and Surgical Institute, in a great measure, to a wise adoption of this system of specialties.

ADVANTAGES OFFERED TO INVALIDS.

Obviously, the most important of these advantages is *facility of treatment*. Of the thousands whom we have cured of chronic diseases, we have probably not seen one in five hundred, having accomplished the desired result through remedies sent either by mail or express and advice given by letter. Yet in some obstinate forms of disease we can here bring to bear remedial means not to be found or applied elsewhere.

That thousands of cases of chronic diseases, pronounced incurable, have, by our rational and scientific treatment, been restored to perfect health, is conclusively proved by the records of practice at the Invalids' Hotel and Surgical Institute. In the more obstinate cases, are employed all the most scientific remedial appliances and methods of treat-



A glimpse at the Turkish Bath Department.

ment, combined with the best remedies of the *Materia Medica*.

A system of mechanical movements, passive exercises, manipulations, kneadings and rubbings, administered by a large variety of ingeniously-contrived machinery, driven by steam-power, has been found especially efficacious and valuable, as an aid to medical and surgical treatment, in the cure of obstinate cases of nervous and sick headaches, constipation, paralysis or palsy, stiffened joints, crooked and withered limbs, spinal curvature,

tumors, diseases of women, especially displacements of the uterus or womb, such as prolapsus, retroversion and anteversion, chronic inflammation, enlargement and ulceration of the uterus, and kindred affections; also of nervous debility, sleeplessness, and other chronic diseases. By these machines mechanical power, or force, is transmitted to the system, in which it is transformed into vital energy and physical power or strength. This mechanical, passive exercise, or movement-cure treatment, differs widely from, and should not be confounded with, "Swedish movements," to which it is far superior in efficacy. Coupled with our improved and wonderful system of "Vitalization"



SECTION OF VIBRATORY MASSAGE ROOM.

treatment, it affords the most perfect system of physical training and development ever devised. For the restoration of power to wasted, undeveloped, or weakened organs or parts, or their enlargement, this combined movement and "Vitalization" treatment is unequaled. It can be applied to strengthen or enlarge any organ or part. We also employ both Dynamic and Static electricity, "Franklinism" and Electrolysis, and Chemical, Turkish and other baths, in all cases in which they are indicated. Inhalations, administered by means of the most approved apparatus, are employed with advantage in many obstinate lung, bronchial and throat affections. We have no hobby or one-idea system of treatment, no good remedial means being overlooked or neglected.

A FAIR AND BUSINESS-LIKE OFFER.

Reader, are you accustomed to think and act for yourself? Do you consult your own reason and best interests? If so, then do not heed the counsel of skeptical and prejudiced friends, or jealous physicians, but listen to what we have to say.

You perhaps know nothing of us, or our system of treatment, or of the business methods we employ. You may *imagine*, but you *know nothing*, perhaps, of our facilities and advantages for performing cures in cases beyond the reach or aid of the general

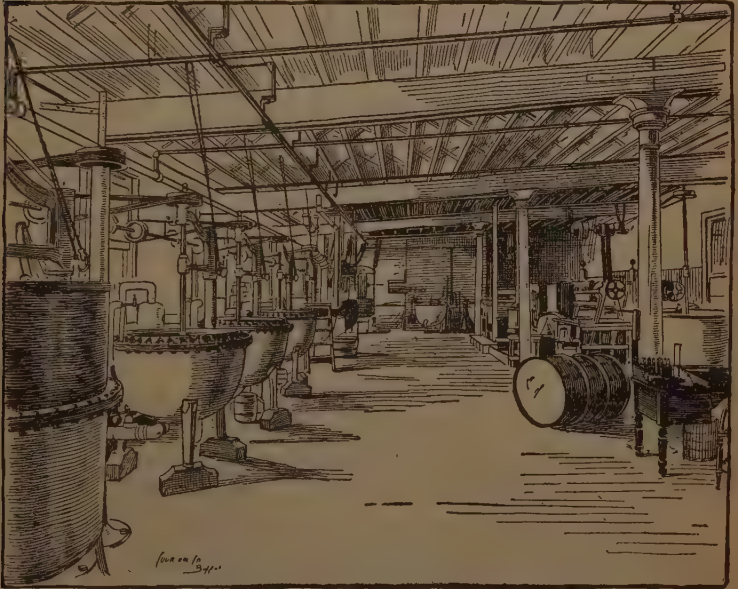


PATHOLOGICAL LABORATORY OF THE INVALIDS' HOTEL.

practitioner. Knowing nothing of all these advantages, you still know as much as the would-be friend or physician who never loses an opportunity to prejudice the afflicted against us. Permit us to state that we have the largest, the best, and the finest buildings of any like Association, company, or firm in this country. We employ *more and better* medical and surgical specialists than any similar Association, and actually have more capital invested. We have a thoroughly qualified and eminent specialist for every disease that we treat. We treat more cases, *and absolutely cure more patients* than any similar institution in America. In addition to those we treat medically, we perform

all the most difficult surgical operations known to the most eminent surgeons, and so frequently do many of these operations occur that some of our specialists have become the most expert and skillful surgeons on this continent.

We wish to add further that we are responsible to *you* for what we represent; we therefore ask you to come and visit our Institution, and, if you find on investigation that we have mis-



SECTION OF CHEMICAL LABORATORY.

stated or misrepresented *in any particular* our advantages, or our success in curing chronic diseases, *we will gladly and promptly refund to you all the expenses of your trip.* We court honest, sincere investigation, and are glad and anxious to show interested people what we can do and are daily doing for suffering humanity. If you are afflicted and are seeking relief, come where genuine ability is a ruling feature, where *success* is the watchword and the alleviation of human suffering the paramount mission.

Whether arriving in Buffalo by day or night, *come directly to the Invalids' Hotel and Surgical Institute, 663 Main Street,* where you will be hospitably received.

Editorial from Sunday New York American.

The young man who begins life with the idea that what is old is necessarily right and what is new is necessarily wrong will have a poor chance in competition with his more wide-awake fellows.

A doctor in practice in a large city recently cautioned a class of students to preserve the traditions of their profession, to remember how ancient and how honorable is medicine, and to beware of innovations and untried experiments. Beautiful advice this to a class of prospective physicians, whose trade has been busy for the last fifty years throwing tradition to the winds and finding new ways to get results. There is hardly a successful doctor of the present age who would not shock his grandfather beyond words by the innovations he has adopted and employed successfully. Vaccination is in violation of tradition; so is the anti-toxin treatment for diphtheria; so is the open-air treatment for consumption. The tradition-following doctor of fifty or a hundred years ago tapped the veins of every ill man who came to him and allowed quantities of his blood to escape. Bleeding was a tradition—and a tradition that killed more victims than war or pestilence. Modern medical thought put an end to bleeding. Quietly and effectively physicians have been disposing of practically every tradition of their profession, and because they have done so thousands of lives have been saved.

No career based on tradition will succeed. The instinct of the animal excels the intellectuality of the man who lives in constant fear of doing something new.

DR. PIERCE'S GOLDEN MEDICAL DISCOVERY and DR. PIERCE'S FAVORITE PRESCRIPTION may now be had in **TABLET FORM**. Two Sizes, to retail at 65 cents and \$1.35. Sold by all dealers in medicines or mailed on receipt of price, in postage stamps or currency.

These medicines of Dr. Pierce's do not contain alcohol.

NEW RAYS OF LIGHT.

People who have been patients at Dr. Pierce's Invalids' Hotel, at Buffalo, N. Y., have much to say in regard to its resources. This modern, up-to-date sanitarium not only affords the best medical and surgical treatment by experienced physicians but it also provides every remedial agent for the treatment of disease without medicines. One of the most wonderful, to the



X-ray photo showing Broken Wrist.

average layman, is the X-ray which may be used both in the treatment of various diseases and in the diagnosis of many obscure conditions. With the aid of this the interior of the human body is no longer the sealed book it has been heretofore. Abnormal states of the bones, gall stones, stone in the bladder or in the kidneys, are now shown plainly by what are known as X-ray photographs. Internal tumors and abnormal conditions of the deep-seated organs are also discovered by this means, and it has proved very valuable in the diagnosis of tuberculosis of the lungs.

Fibroid and other deep-seated tumors are now being treated by X-Ray, and many obstinate skin diseases, such as psoriasis and eczema yield nicely to the effects of these wonderful rays.

The incandescent light bath, consisting of a cabinet in which the patient is bathed in the combined rays of many electric light globes, is a powerful therapeutic agent. It has produced really wonderful results in diabetes, sciatica, rheumatism, obesity, anæmia, and some forms of kidney and heart trouble. It has also proven valuable in chronic bronchitis, bronchial asthma and

the various skin diseases. As a general hygienic measure, its efficiency can scarcely be over-estimated.

The violet-ray treatment, which is another interesting procedure, is carried out by concentrating the light, rich in the violet or chemical rays, from an arc light with a specially prepared carbon, upon any portion of the body that may be the seat of pain. Sufferers from neuralgia, sciatica, rheumatism, strains, sprains, also from those obscure, wearing pains (the origin of which cannot at times be accurately determined) frequently find immediate relief from a single treatment and usually with a little persistence in the use of this aid, comfortable health or perfect recovery is obtained.



X-ray photo showing Broken Bone
of the Leg.

There is also the electric water bath that soothes many a nervous patient to rest and quietness. This is a material aid in hastening the recovery of the dyspeptic, neurasthenic and melancholic to cheerfulness and health.

Not the least unique is the apparatus for mechanical massage, which enables a patient who needs exercise to take it while lying at ease, each muscle or set of muscles being stroked or manipulated as the necessities of the case demand. Of a similar character are the electrical and mechanical vibratory

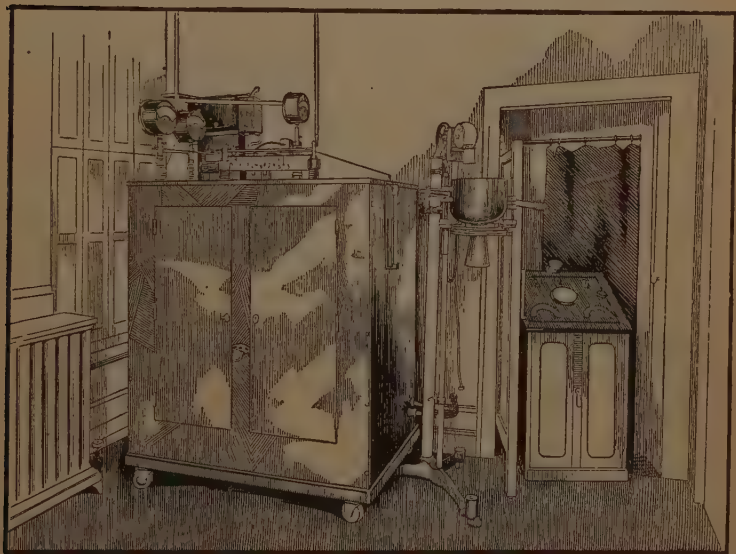
machines that are used to equalize the circulation, stimulate the nerves to healthy action and improve general nutrition. When one realizes that these machines can exercise perfectly almost any and every muscle of the body without a voluntary movement on the part of the patient, their wide range of usefulness will be appreciated.

Of interest, too, are the twelve-plate, static electric machines, capable of throwing miniature flashes of lightning, 20 to 24 inches long. The action of these efficient pieces of apparatus is

so regulated that in spite of their power they are suited to the treatment of the most delicate child or nervous woman, upon whom, as upon others, they produce the most soothing and satisfying effects.

In addition galvanism is employed in the treatment of tumors, without operation, and also in connection with Faradism, in restoring flexibility to stiffened joints and contracted muscles and in imparting motion to partially paralyzed limbs.

WAPPLER X-RAY MACHINE—DUPLEX MODEL



This machine generates the high tension current which is passed through the safest and best of X-Ray tubes.

Pictures or photographs of any part of the body and various internal organs are made by our experts.

The X-Ray is also used by us very successfully in the treatment of tumors to prevent their growth, and for the relief of skin and other diseases.

HIGH-FREQUENCY

(OSCILLATING CURRENT).

This term is especially applicable to electrical currents obtained by means of the rapid charge and discharge of a condenser,

which produces very rapid oscillations. The frequency of oscillations is exceedingly great, amounting at times to hundreds of millions of cycles in a second. The high-frequency current differs in several respects from a disrupted static current which is essentially a high potential current, 10,000 to 50,000 volts, with a minimum amperage, usually about .0005, regarded as too small for high-frequency purposes.

High-frequency currents possess unusual therapeutic powers, both general and local. They apparently promote circulation



SMALL SECTION OF DINING ROOM — INVALIDS' HOTEL

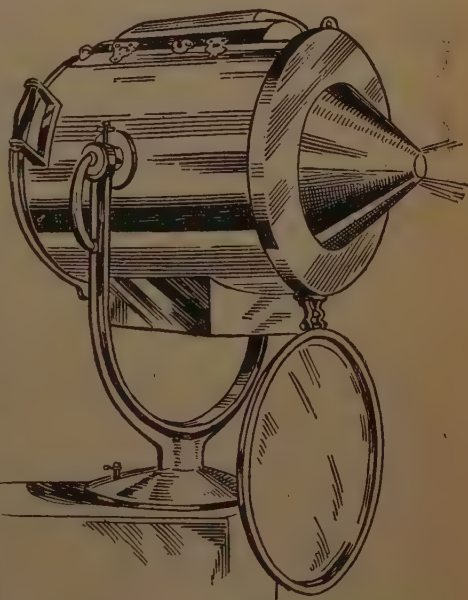
and increase vitality. They are rich ozone generators, and, when applied to unhealthy granulations and various skin diseases, act as an oxidizer, antiseptic and disinfectant. Applied to the skin before incision, they will render the site aseptic.

For general effect the patient is placed upon an auto-condensation couch or in the center of an auto-conduction cage. In the treatment of sub-acute and chronic rheumatism, sciatica, neurasthenia, etc., the condenser couch is most useful.

A notable characteristic of the high-frequency oscillating currents is their lack of power to excite the motor nerves, and

aside from a slight sensation of warmth, there is no excitement to the sensory nerves at the point where the electrode touches the body. This is due to the fact that they oscillate with such rapidity that the nerves cannot respond to them. The accepted explanation is, that the nerves respond to certain frequencies of stimulus; reaction of the motor nerves takes place up to about 5,000 frequencies; if these frequencies are gradually increased, muscular contraction diminishes and finally ceases. This theory is in line with reasoning as to the cause of action of the special senses—sight and hearing.

To generate a high-frequency current it is usual to charge two Leyden-jar-condensers with a high potential current, the source of which may be a static machine or induction coil, shunting the two wires with a spark-gap for the purpose of disrupting the current. The external armatures of the condensers are short-circuited through a solenoid, or helix consisting of a few turns of coarse copper wire (d'Arsonval). The helix may be substituted by a straight copper bar (Sheldon). The upper part of the helix res-



Mechanism for producing violet and other rays of high wave length—used in Eczema, Lupus, Carcinomas and other affections.

onates in unison with the lower, when properly in tune, as would a tuning-fork resonate with another of the same pitch. The office of the extended helix is to amplify the current.

Another arrangement is after Tesla: The primary of a specially constructed induction coil is energized by an alternating current. The secondary terminals, giving a potential of 15,000

volts, are connected, one to each side of a suitable condenser. From each of these terminals a shunt is taken. One leads to one end of the primary of a Tesla coil; the other, broken by a spark-gap, is connected to the second terminal of the primary. The frequency obtained from the Tesla apparatus is fabulously high—millions a second. The potential may be hundreds of thousands or millions of volts. The amperage is sufficient to light to full candle-power several incandescent lamps. The primary of the induction coil consumes 15 to 25 amperes. For maximum high-frequency effects this type of apparatus seems to be essential. There are many modifications of this apparatus.

At the terminals of a working high-frequency apparatus is seen a beautiful brush discharge or effluve of a peculiar blue color, which will leap to any object brought near it. Interpose a plate glass one-half inch thick (or more), and the effluve will penetrate it. If the object is a vacuum tube it will glow almost as brightly as if nothing intervened. It is an ideal current for igniting Geissler and low-vacuum X-ray tubes; only one terminal need be connected. The brush discharge from the terminals of a Tesla apparatus may be 20 or even 50 inches in length. The effect of this effluve on the skin is a sensation of warmth, combined with the feeling that would probably be produced by small hail-stones falling on the body.

SOLARIUM

From time immemorial it has been known that in many diseases characterized by malnutrition, weakness, debility, nervousness, or the wasting of flesh and strength, exposure of the bare body to sunlight in the open air was attended with good results. In many instances it was impossible to do this because of the environment. To meet the requirements there was built in many places a solarium, or sun room, with roof and walls of common window glass. They were failures because it was eventually discovered that this material cuts off all the ultra-violet rays in the sunshine to which the remedial effects are due. Recently a special glass containing a high percentage of quartz was invented. This transmits the health giving rays perfectly.

At the Invalids Hotel a solarium made of this very expensive new material has been built. It has been used with very satisfactory results either by itself alone or as an auxiliary to other treatment.

TREATED AT HOME

A Bureau of Correspondence constitutes a prominent feature of the Invalids Hotel, through which many thousands of chronic invalids are successfully treated without having to visit the Institution for personal examination. If those suffering from chronic ailments will write and describe their symptoms, inclosing in their letters ten cents in stamps to pay postage, complete Treatises on their particular diseases will be sent by return post, with special question blanks designed to aid the afflicted in describing their maladies. When one of these question blanks is carefully filled out and returned to the Bureau of Correspondence, the Faculty will, after careful deliberation, prepare their opinion as to the nature of the case described, and submit it to the patient; and if the case be one which they are confident of being able to treat by medicines specially prepared for use at home, they will state the cost of the necessary remedies. If the case described be one requiring a surgical operation, or one which can in their opinion only be successfully treated at the Institution, where the patient can have the benefit of all the advantages, appliances and facilities which such a thoroughly equipped establishment affords, then terms for such treatment (including board) will be given. Patients are never advised to incur the extra expense of visiting the Institution when it is believed they can be treated at home without a personal examination.



X-RAY PHOTOGRAPH OF A STONE IN THE BLADDER.

SUCCESSFUL TREATMENT OF CHRONIC OR LINGERING DISEASES.

For many years the founder of the Invalids' Hotel and Surgical Institute and World's Dispensary devoted himself very closely to the investigation and treatment of chronic diseases. Some few specifics had during this time, been developed for certain forms of chronic ailments, and given to the public, but they have not been lauded as "cure-alls," or panaceas, but only recommended as remedies for certain well-defined and easily recognized forms of disease. These medicines are sold through druggists very largely, and have earned great celebrity for their many cures. So far from claiming that these proprietary medicines will cure all diseases, their manufacturers advise the afflicted that, in many complicated and delicate chronic affections, they are not sufficient to meet the wants of the case. These must have special consideration and treatment by a competent physician and surgeon, the medicines and other remedial means required being selected and prepared with reference to each particular case.

In order to be able to offer those afflicted with chronic ailments the most skillful medical and surgical services, Dr. Pierce, many years ago, associated with himself several eminent physicians and surgeons, as the Faculty of the old and renowned World's Dispensary, the Consulting Department of which is now merged with the Invalids' Hotel and Surgical Institute.

DIVISION OF PRACTICE.

In the organization of the medical and surgical staff of the Invalids' Hotel and Surgical Institute, several years ago, we assigned to one physician the examination and treatment of diseases of the nervous system; to another, surgical operations and the treatment of surgical diseases; a third had charge of catarrhal and pulmonary diseases and affections of the heart; a fourth attended to diseases peculiar to women; a fifth, to diseases of the eye and ear; a sixth, to diseases of the digestive organs; a seventh, to special surgical cases; to another we entrusted diseases of the urogenital organs; and to others, various other specialties. Now that our practice has become so very extensive as to require for its conduct a greatly increased number

of physicians and surgeons, we have been obliged to detail to several of these divisions or specialties in practice, two, three, and even four physicians and surgeons. Thus four physicians devote their undivided attention to the examination and treatment of diseases of the urinary and generative organs of men. Three physicians give their sole attention to diseases peculiar to women and three to those of the nasal organs, throat and chest, embracing all chronic diseases of the respiratory organs. Thus we have a full council of three and four physicians in these several specialties. In several other divisions we have two special-



A Patient's Room.—Invalids' Hotel and Surgical Institute.

ists. No case is slighted either in the examination or in the treatment. All doubtful, obscure or difficult cases are submitted to a council composed of several physicians and surgeons. Skilled pharmacutists are employed to compound the medicines prescribed. For the purpose of enabling us to conduct our extensive correspondence (for we have an extensive practice in every part of the United States and Canada) dictaphones are employed, to which replies are dictated, recording the words of the speaker. Afterwards the letters are written out in full, on up-to-date type-writing machines, which print them in plain, legible style.

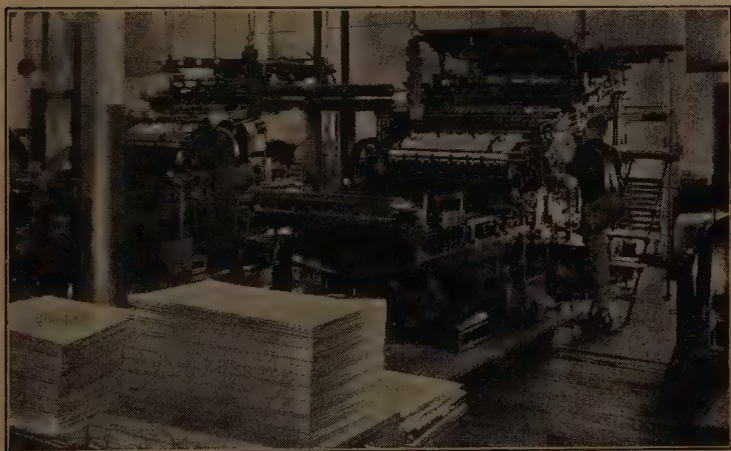
These machines are operated as rapidly as a person can think of the letters which compose a word, each operator thus accomplishing the work of several copyists. This system, by which we are enabled to correspond with our patients as rapidly as we can talk, has been rendered necessary by the growth of our business, which has attained immense proportions, giving rise to so large a correspondence that a dozen physicians cannot possibly conduct it all and give each patient's case careful attention, without the employment of dictaphones and all other facilities which modern invention has given us. By the adoption of these various means, we are enabled to fully meet the demands of the afflicted, and give every case the most careful attention.

As many persons, particularly young men and women having catarrh or almost any other chronic disease, especially if of the urogenital organs, are very sensitive and fearful that somebody will know that they are afflicted and employing medical treatment, precautions are taken that none who consult us may incur the least risk of exposure. Although none but the most honorable and trustworthy gentlemen are employed as assistants, yet as a *guarantee* of perfect security to our patients, that every communication, whether made in person or by letter, will be treated as *sacredly confidential*, each professional associate, clerk, or assistant, is required to take a solemn oath of secrecy. Great care is also taken to send all letters and medicines carefully sealed in plain envelopes and packages, so that no one can even *suspect* the contents or by whom they are sent.

ADVANTAGES OF SPECIALTIES.

By thorough organization and a perfect system of subdividing the practice of medicine and surgery in this Institution, every invalid consulting us is treated by a specialist—one who devotes his undivided attention to the particular class of diseases to which his or her case belongs. The advantage of this arrangement must be obvious. Medical science offers a vast field for investigation, and no physician can, within the limit of a single life-time, achieve the highest degree of success in the treatment of *every* malady incident to humanity. A distinguished professor in the medical department of one of our universities, in an address to the graduating class, recently said: "Some professional men seem to be ashamed unless they have the character of universal knowledge. He who falls into the error of studying everything will be certain to know nothing well. Every man

must have a good foundation. He must, in the first place, be a good general practitioner. But the field has become too large to be cultivated in its entirety by any individual; hence the advantage of cultivating special studies in large towns, which admit of the subdivision of professional pursuits. It is no longer possible to know everything; something must be wisely left unknown. Indeed, a physician, if he would know anything well must be content to be profoundly ignorant of many things. He must select something for special study, and pursue it with devotion and diligence. This course will lead to success, while the attempt to do everything eventuates unavoidably in failure.

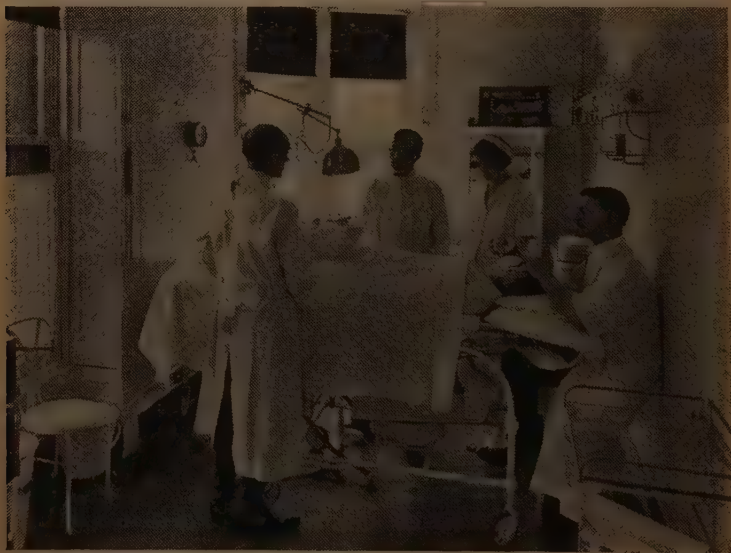


SECTION OF PRINTING DEPARTMENT.—WORLD'S DISPENSARY.

Let there be single hands for special duties." Our Institution is the only one in this country in which these common-sense-ideas are *thoroughly* carried out. The diversified tastes and talents of physicians cause each to excel in treating some one class of diseases, to which he devotes more attention and study than to others. Our medical student manifests great interest in the anatomy, physiology, pathology, and treatment of diseases of the eye. He becomes thoroughly familiar with all the minutest details relative to that organ and its diseases, and so thoroughly qualifies himself in this branch of knowledge that he is able to cure an inflammation or other affection of the eye in a very short time. Another student is more interested in some other class of diseases, for the study of which he has a liking, and neglects to

inform himself in the ophthalmic branch of medical and surgical science. If after engaging in the practice of his chosen profession, he is consulted by persons suffering from diseases of the eye, he tortures them with unnecessary and oftentimes injurious applications, clumsily and carelessly made, and, as the result of such unskillful treatment, the inestimable blessing of sight may be sacrificed.

The great majority of physicians allow acute maladies, diseases of children, and the practice of midwifery, to engross most of their time and attention. They manifest an absorbing interest



Operating Room for Gynecologist at Invalids' Hotel.

in everything that relates to these subjects, and devote little or no time to acquiring an intimate knowledge of the great variety of chronic maladies which afflict mankind. They acquire skill and reputation in their favorite line of practice, but are annoyed if consulted by one suffering from some obscure chronic affection, usually turn the invalid off with a very superficial examination, and, perhaps, only prescribe some placebo,* apparently indifferent as to the result, but really desiring thus to conceal their lack of familiarity with such diseases. The specialist, the treat-

*A placebo is a harmless and valueless prescription, which physicians sometimes make merely to gratify the patient, as a dose of "bread pills," etc.

ment of chronic diseases being his vocation, is equally annoyed if consulted by those suffering from acute diseases, but does not pursue the inconsistent course of assuming to treat them. He refers them to those of his medical brethren whose daily dealings with such cases make them, in his way of thinking, more competent than himself to render valuable service to such sufferers. He recognizes the fact that no man is likely to succeed in any line of study or business for which he possesses no talent or relish, nor does he believe in being a "jack-at-all-trades and master of none."

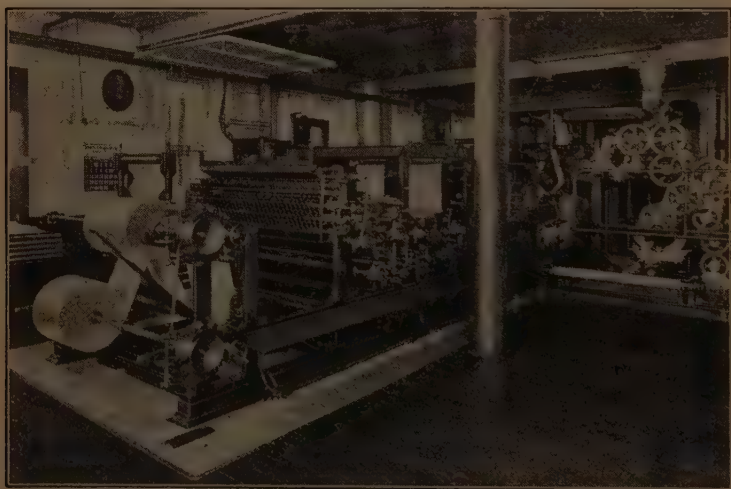


LABELING AND BOTTLING MACHINE, WORLD'S DISPENSARY.

ADVERTISING

Having thoroughly qualified himself for the practice of some particular branch of the healing art, the specialist sees no impropriety in acquainting the public with his ability to relieve certain forms of suffering. He believes that medical men should possess equal rights with other business men, and that any code of medical ethics which would deprive him of any of the sacred rights guaranteed to all by the liberal laws of the country, is professional *tyranny*, and merits only his contemptuous disregard. Nor does he display any false modesty in the *manner* of

making known his skill. He maintains that he has an undoubted right to place his claim to patronage before the public by every fair and honorable means. He recognizes the display of goods in the merchant's show-windows as no less an advertisement and in no better taste than the publication of a card in the newspaper. So, likewise, he regards the various devices by which the extremely *ethical* physician seeks to place himself conspicuously before the public, as but so many ways of advertising, and as not more modest than the publication of cures actually performed, or than his announcement through the public press of his professional resources for treating certain maladies.



Large Hoe Press specially built for World's Dispensary.

The physician who expresses a "holy horror" of the "*advertising doctor*," liberally bestowing upon him the epithet of "quack," announces *himself* a graduate, talks learnedly and gives notice to the public in *some* way that he is ready to serve them. He endeavors to impress upon the mind of the patient and family his skill, frequently exaggerates as to the extent of his practice, rides furiously about when he has no professional calls, keeps up business appearances by driving several horses, or joins influential societies. He may make a great display in style, manner, dress, pretensions, writing for the newspapers, exhibiting literary pedantry, referring to the superior facilities afforded by some particular school or society to which he belongs; or by editing and publishing a medical journal, ostensibly for the

advancement of medical science, but practically to display titles or professorships, to publish reports which flatteringly allude to cases he has treated, the number of capital surgical operations he has performed, or the distinguished families he is treating. All these are but *modes of advertising* professional wares; in short, are artful, though not refined, tricks, resorted to for private announcement. We say to all such adventures in modern advertising diplomacy, that these indirect, clandestine methods are not half so candid and honorable as a direct public statement of the intentions and proposals of a medical practitioner, who thereby incurs an individual responsibility before the law and his fellow-men.

No good reason has ever been assigned why any well educated physician, trained in the school of experience until he becomes proficient in medical skill, may not publish facts and evidence to disclose it, especially when these are abundant and conclusive. The following extracts from an able article by the Rev. THOMAS K. BEECHER embodies a sound view of the subject of medical advertising. He says:

* * * "I am glad that the doctor cured him; I am glad that the doctor put it in the paper that he could cure him. And if any doctor is certain that he can cure such diseases and don't put it in the paper, I am sorry. What a pity it would have been had this doctor come to town with his wealth of science and experience and gone away leaving him uncured! What a pity it would have been if he had been so prejudiced against advertising as to read the responsible certificate of the doctor and give him the go-by as a quack! What are newspapers for, if not to circulate information? What more valuable information can a newspaper give than to tell a sick man where he can be cured? If a man has devoted his life and labor to the study of a special class of diseases, the necessity of his saying so becomes all the more pressing. His *duty* to advertise becomes imperative.

"When I was in England, I found on all the dead walls of London, placards, declaring that Dean Stanley, Chaplain to the Prince of Wales, would preach at such a place; that his grace the Archbishop (I think) of Canterbury would preach at another time and place; again, that an Oxford professor would preach. In short, religious notices were sprinkled in among the theater bills, and the highest church dignitaries were advertised side by side with actors, singers, and clowns. Of course, I was shocked by it, but in a moment I bethought me—if it be all right and dignified to hire a sexton to ring a bell when the minister is going to preach, it is all the same to silence the bell and hire a bill-sticker to tell the same news, the essential thing being to tell the truth every time. The remedy for the lying advertisements is for honest men to tell the truth. 'When iniquity cometh in like a flood, then the spirit of the Lord lifts up the standard.' A really able man, whatever be his gifts, makes a great mistake if he fail to use those gifts through want of advertising."

If a physician possesses knowledge that enables him to remedy diseases heretofore regarded as incurable, what virtue or modesty is there to "hide his light under a bushel"? In this free country the people think and act for themselves, and hence all have a deep concern in the subject of health. The strong popular prejudice against the doctors who advertise is due to the fact, that by this method so many ignorant charlatans are enabled to palm off their worthless services upon the uneducated and credulous; but the practice of such imposition should not cause a



One of the Operating Rooms—Invalids' Hotel.

presumption against the public announcement of real skill, for the baser metal bears conclusive evidence that the pure also exists.

Every step in scientific investigation, every proposition which relates to the interest and happiness of man, every statement and appeal involving a valuable consideration, must be submitted to the scrutiny and judgment of individual reason; for every person has the right to form his own conclusions, and justify them by experience. Those claims which are only supported by empty assertion are very doubtful. Misty theories vanish before the sun of truth. He who renders professional services cannot be successful, unless he be sustained by real merit.

TREATING PATIENTS WHO RESIDE AT A DISTANCE.

We can treat many chronic diseases as successfully without as with a personal consultation, as our vast experience enables us to correctly determine the malady from which the patient is suffering, from a history of the symptoms, and answers to questions furnished. We have not seen one person in five hundred of those whom we have cured.

Some may suppose that a physician cannot obtain, through correspondence, a sufficiently accurate idea of the condition of a



THE PHARMACY, INVALIDS HOTEL.

patient to enable him to treat the case successfully; but a large experience in this practice has proved the contrary to be true, for some of the most remarkable cures have been effected through the medium of correspondence. In most long-continued cases, the patient has thought over his symptoms hundreds of times. The location of every pain, whether acute or mild, constant or occasional, and the circumstances under which it occurs, have been carefully noted. He has observed whether he had a rush of blood to the head, was feverish or chilly, whether troubled with cold hands and feet, whether full of blood, or pale and bloodless; and he states these matters with accuracy and common sense when writing to us, for he has a very good, if not a professional, knowledge of the relative importance of these symptoms. So in regard to digestion, he states what kinds of food

agree with him, or whether he is troubled with excessive acidity or a flatulent condition of the stomach. He also informs us whether his tongue is coated and bilious, or clean and healthy, and gives many other particulars too various to enumerate, by which we are enabled to gain a perfect understanding of the case. If his description be not sufficiently complete to enable us to obtain a definite understanding of the case, he is requested to



Application of the Violet Ray and Arc-Light at Invalids' Hotel.

answer a list of important questions which are sent him. The people are far more intelligent in these matters than physicians are generally willing to admit. A patient is often confused while being personally examined by a physician, and gives imperfect or incorrect answers. After he has left the presence of the physician, he finds that he has failed to enumerate many of the most important symptoms. In consulting by letter, the patient is not embarrassed, he states the exact symptoms, and carefully reads over the letter to see if it is a complete and accurate description of his sufferings. In this way he conveys a much better idea of the case than if present in person, and subjected to the most thorough questioning and cross-examination. The timid lady

and nervous young man write just as they feel; and one important reason why we have had such superior success in treating intricate and delicate diseases, is because we have obtained such true and natural statements of the cases from these letters, many of which are perfect pen-pictures of disease. As bank-tellers and cashiers, who daily handle large quantities of currency, can infallibly detect spurious money by a glance at the engraving or a touch of the paper, so the experienced physician, by his great familiarity with disease, becomes equally skilled in detecting the nature and extent of a chronic malady from a written description of its symptoms.

URINARY SIGNS.

A careful microscopical examination and chemical analysis of the urine is a valuable aid in determining the nature of many chronic diseases, particularly those of the nervous system, blood,



Monocular Microscope used at the Invalids' Hotel and Surgical Institute.

liver, kidneys, bladder, prostate gland and generative organs. This important fact is not overlooked at the Invalids' Hotel and Surgical Institute, where an experienced chemist is employed to make such examinations and report the result to the attending physicians. Medical authors, professors, and practitioners of all schools, admit and even insist upon the importance of such examinations in diagnosing diseases. Many practitioners neglect to take advantage of this invaluable aid, while others fear that if they attach much importance to such examinations they will be ranked with "uroscopian" or "water" doctors, a class of enthusiasts who claim to be able to correctly diagnosticate

every disease by an examination of the urine. Persons consulting us and wishing to avail themselves of the advantages afforded by these examinations can send small vials of their urine. The vials should be carefully packed in saw-dust or paper and enclosed in a light wooden box. All charges for transporta-

tion must be prepaid, and a complete history of the case including the age and sex of the patient, must accompany each package, or it will receive no attention. This saves valuable

Fig. 1.



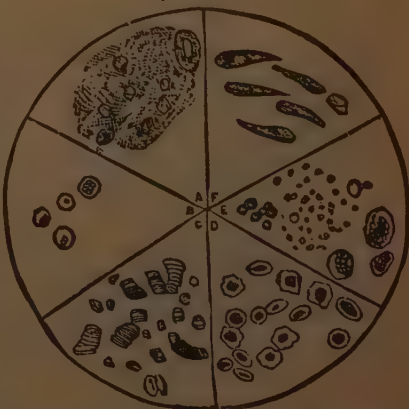
time by directing the examination into the channels indicated, thus avoiding a lengthy series of experiments. As we are daily receiving numerous vials of urine, every sample should, to prevent confusion, be labeled with the patient's name.

There is a natural, definite proportion of the component elements of every solid and fluid of the human body.

These proportions have been reduced to definite standards, a deviation from which affords evidence of disease. Thus, there being a fixed standard in a normal proportion of the elements of the blood, any deviation from it, as in anæmia, leucocythæmia, etc., indicates disease. So also the standard proportion of the urinary

elements being known, any considerable change, either in quantity or quality of its parts, bears unmistakable evidence of disease. The invention of the microscope has provided increased facilities for detecting diseases by examination of the urine. By the aid of this wonderful instrument, we are enabled to discover with absolute certainty the various urinary deposits characteristic of different maladies. The microscopic examination of the

Fig. 2.



urine, notwithstanding the distaste, and even contempt, which many physicians manifest for such investigations, is pursued at the Invalids' Hotel and Surgical Institute, with inestimable ben-

efit to our patients. It has revealed the existence of many serious affections, which, with all our other modes of investigation, we might have been unable to detect. It has also thrown light upon many obscure chronic diseases.

Fig. 3.



In Fig. 1 highly magnified urinary deposits, which indicate impairment of the digestive functions, are represented. The crystals are composed of oxalate of lime and appear in the different forms shown in the five sections, of octahedral, decahedral, round and dumb-bell shapes. The latter are formed in the kidneys, and are

sometimes discovered adhering to casts.

The various forms of gravel, Bright's disease of the kidneys, hæmaturia, inflammation of the kidneys and bladder, diabetes, and other functional and organic diseases of the urinary organs effect characteristic changes in the urine, thus enabling us to distinguish them with certainty and exactness. Some of the various microscopical appearances of the urinary deposits in diseases of the kidneys and bladder, are represented in Fig. 2. In division A is represented pus and mucus, with decomposition, indicating suppuration somewhere along the urinary tract. In B pus globules are alone represented. In the division marked C are shown blood corpuscles as they are arranged in blood drawn from a vein or artery. D represents the same separated, as they always are when present in the urine. In E highly magnified oil globules are represented. If present in the

Fig. 4.



urine, they indicate disease of the kidneys. In F are represented epithelial cells, the presence of which in large numbers is indi-

Fig. 5.



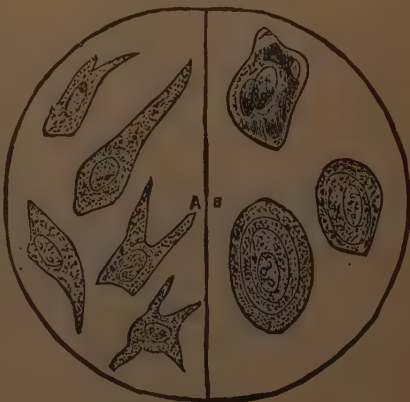
cative of diseases of the mucous lining of the urinary organs.

Earthy phosphates are often mistaken for pus and also seminal fluid. Phosphates are always found in decomposed urine, otherwise they indicate brain affections, acute cystitis, etc. Experience has taught us that the voiding of urine loaded with phosphates is a forerunner of cystitis, or enlargement of the prostate gland, or both. In fact, persons

so affected are "prone to serious consequences from mild attacks of almost any and every acute disease."

Fig. 3 represents the microscopic appearance of mixed urinary deposits. In division A is represented fermentation spores as they appear in diabetic urine. Pasteur asserts that the germs of this fungus get into the urine after it has been passed. Urates appear in division B. These indicate waste of flesh, as in fevers, consumption, prolonged physical efforts, etc. Division C pictures urates of ammonia. These appear in alkaline decomposition of the urine; it is isomeric with uric acid in acid urine. In division D is represented urate of soda, which is present in the tissues of persons suffering from gout. The crystals shown in division E consist of the same salt.

Fig. 6.

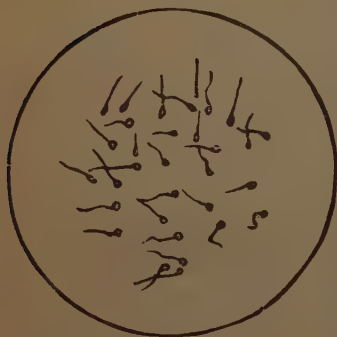


In Fig. 4 division A, is represented purulent matter as it appears in the urine. The formation of pus in different parts of

the genito-urinary system is accompanied by the appearance of pus corpuscles in the urine. When fat globules, represented in division B, are found in the urine, they indicate fatty degeneration. In division C are representations of the cells found in the urine of persons suffering from cystitis or other inflammatory diseases.

Fig. 5 divisions A and B, represent different forms of cystine. Fortunately this substance is rarely found in the urine. When present however it indicates liability to [or the actual presence of] a calculus or stone in the bladder. In division C is a representation of the deposits seen in the urine of those who are greatly debilitated. In division D are seen epithelial cells mixed with mucus.

Fig. 7.



In Fig. 6 division A, are represented the caudated cells from the deep structure of the bladder. The cells represented in division B are amyloid concretions, found where there is an enlarged prostate gland.

Fig. 7 represents the appearance of spermatozoa as seen in the urine. When present, they afford indisputable evidence of the escape of semen in the renal excretions.

We might add many other illustrations of urinary deposits and state their several indications, but a sufficient number has been introduced to show the importance and practical value of microscopic examinations of the urine in revealing obscure diseases.

Although the microscope is of inestimable value in examining the renal excretion, it does not entirely supersede other valuable instruments and chemical re-agents in determining constitutional changes. By the urinometer we determine the specific gravity of the urine; by the use of litmus its acid or alkaline reaction is ascertained; while various chemicals, when added to it, produce certain specific changes, according to the morbid alterations which it has undergone by reason of disease. By the application of heat, or the addition of a few drops of nitric acid, the albumin, which is invariably present in Bright's disease of the kidneys, is coagulated. By the employment of other re-agents we may determine the presence of sugar—a characteristic of diabetic urine. And thus we might mention almost innumerable chemical

tests by which the several changed conditions of the urine, *characteristic* of different diseases, may be ascertained with *absolute certainty*.

EMINENT MEDICAL AUTHORITIES ENDORSE IT.

Dr. Eberle, a distinguished allopathic author, thus writes: "Whatever may be the disease, the urine seldom fails in furnishing us with a clue to the principles upon which it is to be treated."

Dr. Braithwaite also says: "We can arrive at a more accurate



CLINICAL LABORATORY, INVALIDS HOTEL,
Where urinalysis and other tests are made.

knowledge respecting the nature of diseases from examining the urine than from any other symptom."

Golding Bird, whose writings are regarded as sound and practical by the most learned of the medical profession, says: "The examination of the urine in disease is now regarded as one of the most important aids in diagnosis, and which it would be injurious alike to the welfare of the patient and the credit of the practitioner to avoid."

While we recognize the importance of examining the urine as an aid in distinguishing diseases, and have made this

method of diagnosis a special study, yet we do not claim that *all* diseases can be unmistakably distinguished by such examinations *alone*. We take a conservative position and have no confidence in that class of ignorant fanatics whose pet hobby is "uroscopy."

From every person who solicits our professional services, we require explicit answers to numerous important questions, that we may know the age, sex, vocation, etc., as well as the prominent symptoms manifested.

CONSULTATIONS BY LETTER.

Formerly, we published in this book a very extensive list of questions to be answered by those consulting us, but a large experience has convinced us that beyond requiring answers to a few leading questions, which we still retain, it is better to let the patient describe the malady in his or her own way and language. After receiving and considering such a history, if we do not fully understand the patient's malady, we will ask such further questions as may be necessary. The patient should however, in addition to writing name, post-office, county, and state, *plainly*, state the name of the town containing the nearest express office. Next give age, sex, whether married or single, complexion, height, present and former weight, if known, and occupation. State also if you have been a hard worker, and whether it is necessary for you to labor hard now, how long you have been out of health, and from what particular symptoms you suffer most. Follow this with a history of your case in your own language. If you find in this book an accurate description of your disease, state the page and paragraph where it occurs.

FREE CONSULTATION.

We now make no charge for consultation by letter, but instead of the one dollar formerly charged by us as a consultation fee, as we are desirous of making our facilities for treatment known to invalids far and near, we request that all persons writing to us for advice send us the names of all those within the circle of their acquaintance who are in any way in need of medical or surgical treatment for chronic diseases. If convenient, send the list on a separate piece of paper.

CHARGES MUST BE PREPAID.

Should you send a vial of urine for analysis, about a cupful will do, and if sent by express *all express charges on it must be prepaid*.

We have received hundreds of samples through the mails safely when put in homœopathic or other *small* vials, well corked and carefully packed in a light tin can or *wooden* box, or in a light pine stick bored out hollow, the vial being carefully packed in sufficient sawdust or blotting paper to absorb all liquid should the vial get broken. Send about two ounces of the first urine that is passed after rising in the morning.

OUR TERMS FOR TREATMENT

require the payment of monthly fees, in advance, which entitles the patient to medicines specially prepared for and adapted to his or her particular case, and to all necessary attention and advice. Our fees for treatment are moderate, varying according to the nature and requirements of each particular case, and will be made known at the time of consultation.

WHY OUR FEES ARE REQUIRED IN ADVANCE

We receive applications from strangers residing in all parts of America, and even in foreign countries, and it is not reasonable to suppose that credit could be dispensed so indiscriminately. It would not be a correct business transaction for a merchant to send a barrel of sugar or a roll of cloth to a stranger living hundreds of miles away, to be paid for when used. Our knowledge and medicines constitute our capital in business, and an order upon that capital should be accompanied with an equivalent. Some applicants refer us to their neighbors for a testimonial of their integrity. We cannot spare the time or employ assistants to make such inquiries for the sake of trusting any one. Should credit be thus indiscriminately given, there would necessarily be losses, and, to compensate for these, and the extra expense incurred by the employment of assistants, our fees would have to be much larger, thereby imposing the burden upon those who *do* pay. Instead of following this method of procedure, we place professional services within the reach of all, so that a greater number may be benefited. Many invalids

say that they have paid large sums of money to medical men for treatment without obtaining relief. Unfortunately our land is cursed with quacks and unprincipled practitioners, who seek no one's good but their own, and it is a defect in our law that it permits such swindlers to go unpunished. Not so reprehensible is the family physician who fails, because his limited and varied practice does not permit him to become proficient in treating chronic diseases.

We are warranted in saying that our responsibility and disposition for fair dealing are known to many of the principal mercantile houses, as well as to all prominent American editors. We also refer to our present and former patients, one or more of whom may be found in almost every hamlet of America. To all who are under our treatment we devote our highest energies and skill, fully realizing that an untold blessing is conferred upon every person whom we cure, and that such cures insure the permanency of our business. On the contrary, we realize how unfortunate it is for us to fail in restoring to health any person whom we have encouraged to hope for relief. We are careful, therefore, not to assume the treatment of incurable cases, except when desired to do so for the purpose of mitigating suffering or prolonging life; for we never wish to encourage false hopes of recovery.

TERMS FOR BOARD AND TREATMENT AT THE INVALIDS' HOTEL AND SURGICAL INSTITUTE

are moderate, varying with the nature of the case and the apartments occupied. At times so great is the number applying to avail themselves of the skill of our Faculty, and the advantages which our Institution affords, that we are unable to receive all applicants. To be sure of securing good apartments, it is well to engage them sometime ahead, and make an advance payment of fifty dollars or more upon them, which will be refunded in case acute sickness or any similar cause should prevent the patient from occupying them at the time specified. Complete terms for treatment and

board can be arranged only when personal application for entrance to the Institution is made, and the nature and extent of the disease and the necessary treatment fully determined by personal examination of the case. If satisfactory terms and arrangements cannot at that time be agreed upon, or if the case be deemed incurable, any advance payments that have been made to secure good apartments will be promptly refunded.

SPECIAL ADVICE.

Those coming here to consult us personally, should bring the money to pay for our services and for board and care while remaining here, in the form of drafts on New York City, Boston or Chicago, and *not* in the form of checks on a local or home bank. Such drafts can be purchased in the home bank by paying a small amount for the exchange. If more convenient, post office orders payable at Buffalo post office will do.

TO PHYSICIANS

wishing to consult us in intricate cases of chronic diseases under their treatment, we desire to say that we shall, as in the past, take pleasure in responding to their solicitations. We have all the necessary instruments and appliances required in executing the most difficult surgical operations, and, we have had much experience in this department, we are always ready and able to assist physicians who do not practice operative surgery. In this age of railways and telegraphs medical and surgical aid can be summoned from a distance and promptly obtained.

OUR MEDICINES

as put-up for sale through druggists, are not recommended as "cure-alls," or panaceas, but only as superior remedies for certain common and easily-recognized diseases. They are our favorite prescriptions, improved and perfected by long study and a vast experience in the treatment of chronic diseases, and have gained world-wide celebrity and sale. We are well aware that there are many chronic diseases that can only be successfully treated and cured by careful adaptation of remedies to each individual case. This is especially true of the ever-varying and delicate diseases of the kidneys and bladder. It is not less so with reference to nervous debility, involuntary vital losses, with which so many young and middle-aged men are afflicted; and we may also include in this list epilepsy or fits, paralysis or palsy, obstinate gleet discharges, and many other chronic and delicate ail-

ments of which our staff of physicians and surgeons cure annually many thousands of cases, but *for which we do not recommend* any of our put-up, ready-made, or proprietary medicines.

NOT CONFINED IN PRESCRIBING.

Our physicians, in the treatment of cases consulting us, prescribe just such medicines as are adapted to each particular case. *They are not confined in the least* to our list of a few put-up or proprietary medicines (valuable as they are when applicable to the case) but resort to the whole broad range of the *materia medica*, employed by the most advanced physicians of the age. They are not hampered by any school, *ism* or "*pathy*."

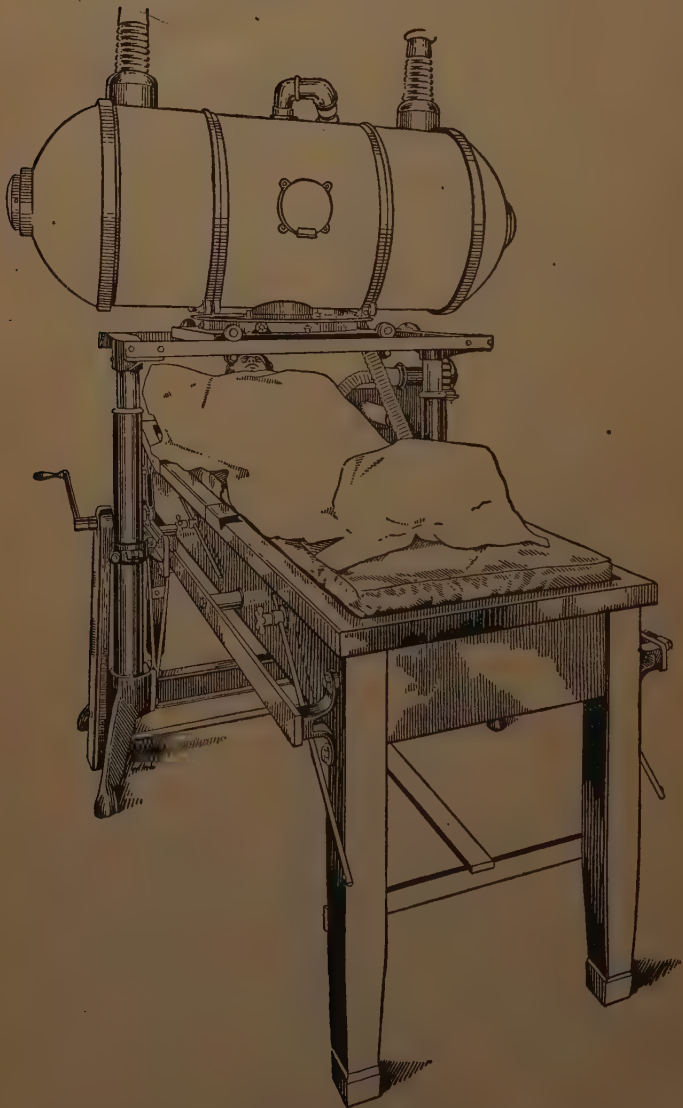
OUR MEDICINES ARE PREPARED WITH THE GREATEST CARE.

The medicines employed are all prepared in our own Laboratory by skilled chemists and pharmacists, and the greatest care is exercised to have them manufactured from the freshest and purest ingredients. Our Faculty probably employ a greater number and variety of native roots, barks, and herbs, in their practice than are used in any other invalids' resort in the land. Using vast quantities of these indigenous medicines, we can afford and do not neglect to have them gathered with great care, at the proper seasons of the year, so that their medicinal properties may be most reliable. Too little attention is generally paid to this matter, and many failures result from the prescribing of worthless medicines by physicians who have to depend for their supplies upon manufacturers who are careless or indifferent in obtaining the crude plants and roots from which to manufacture their medicines for the market. While depending largely upon solid and fluid extracts of native plants, roots, barks, and herbs, in prescribing for disease, yet we do not use them to the exclusion of other valuable curative drugs and chemicals. We aim to be unprejudiced and independent in our selection of remedies, adopting at all times a rational system of therapeutics. This liberal course of action has, in a vast experience, proved most successful.

INVALIDS' HOTEL,

665 MAIN STREET, BUFFALO, N. Y.

DEEP THERAPY X-RAY OUTFIT



DEEP THERAPY TABLE

Used in the treatment of fibroid tumors and other deep-seated growths.

TREATMENT OF FIBROID TUMORS

BY

Deep X-Ray Therapy

as Used at Dr. Pierce's Invalids Hotel

This form of treatment for fibroid tumors of the uterus is strongly recommended to those who do not care to risk the dangers of an operation, and in cases where, on account of some organic disease of the heart, kidneys, etc., an operation is not advisable. Deep X-Ray is so called because it penetrates into the deeper tissues and organs.

To be successfully employed it is necessary that the highest type of X-Ray machine be used, giving a uniform current to the X-Ray tube which is a special tube made for this purpose. Varying strengths of current are used, depending upon the size of the tumor, thickness of the tissues thru which the X-Rays must pass, also the decision of the X-Ray specialist as to what he considers best. Anywhere from 150,000 to 200,000 volts are used in the X-Ray tube, yet with a properly constructed machine there is no danger at all, as all the parts are fully insulated, and every measure of precaution is taken to insure safety.

In our apparatus the X-Ray tube is fully enclosed in a large lead cylinder which protects the patient from all undesirable exposure to the X-Ray. X-Ray treatments should be given only by a physician who has had special training in the use of the X-Ray.

It should be borne in mind by the patient who dreads an operation that, in treating fibroid tumors with the X-Rays, no anæsthetic is employed, no pain is felt, no cutting required. The patient simply lies on a comfortable table for the required length of time, while the X-Rays are passing into the affected portion of the body.

All patients are not treated alike. An examination is made, and the manner of giving the X-Ray is adapted to the peculiar requirements of the case. Some need longer and stronger treatments, others those which are shorter and more frequent. Some are treated thru one area, others thru three or four.

One complete treatment by X-Ray may be divided into two, or more, applications usually given on successive days, and may

be repeated in three weeks. Generally a third application is given three weeks later, and these three constitute a full course. As there may be some systemic reaction, it is desirable to have the patient under observation between treatments. There is usually no confinement to bed. In the ordinary case the patient remains in the Invalids Hotel about sixty days.

The X-Ray has a very decided action on certain kinds of tissues. Those of the female generative organs are particularly susceptible. Thru the effects of these rays on the ovarian and uterine structures the tumor soon begins to shrink, and in a few months there is a marked reduction in size or maybe a complete disappearance of the growth. During this time there is usually a great improvement in the patient's health in general, as the more severe symptoms are relieved and their weakening effects on the system removed.

For terms and further information on this subject, address your letter, Doctor Pierce's Clinic at Invalids Hotel, Buffalo, N.Y.

RADIANT LIGHT



THE DEEP THERAPY LAMP Used in Radiant Light Treatment
at Dr. Pierce's Invalids Hotel.

It now is well known that light of all kinds is destructive of all forms of bacterial life. It is Nature's universal bactericide.

When using Radiant Light, we are using nearly all of the sun's rays except infra-red and ultra-violet, both of which refer to their position in the spectrum and not to color.

Radiant Light has a decided tonic effect, creating a sense of well-being and stimulating nutrition through its action on the sympathetic nervous system. An inactive skin is made intensely active by radiant light.

To relieve pain in a wide variety of conditions it has no equal in efficiency and ease of application.

The relief of deep-seated pain has been demonstrated.

Pain following operative incision may be safely, conveniently and to a very large extent relieved by prolonged and distant Radiant Light application.

KROMAYER LAMP — left center of picture.

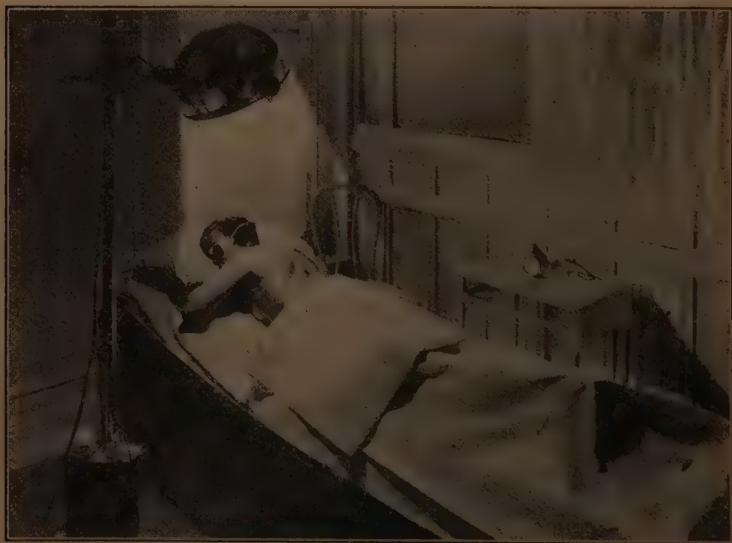


Corner of Nose, Throat and Ear Department, Invalids Hotel.

Here the ordinary colds as well as the unusual and severe cases of catarrh, acute and chronic, are successfully treated by most modern methods and all conditions requiring surgical correction, painlessly and safely relieved. The new Kromayer, the latest form of application of concentrated Quartz Light therapy is being employed, as well as the comparatively recent Chlorine Gas method of treatment, used where indicated.

THE ALPINE SUN LAMP

The Alpine Sun Lamp is so named because it produces effects similar to those obtained from the sun's rays in the Alps Mountains of Switzerland. For many years the Swiss doctors have used the sun's rays in successfully treating various diseases. Scientists have proved that it is the Ultra-Violet Rays in sunlight which produce the beneficial effects. The Alpine

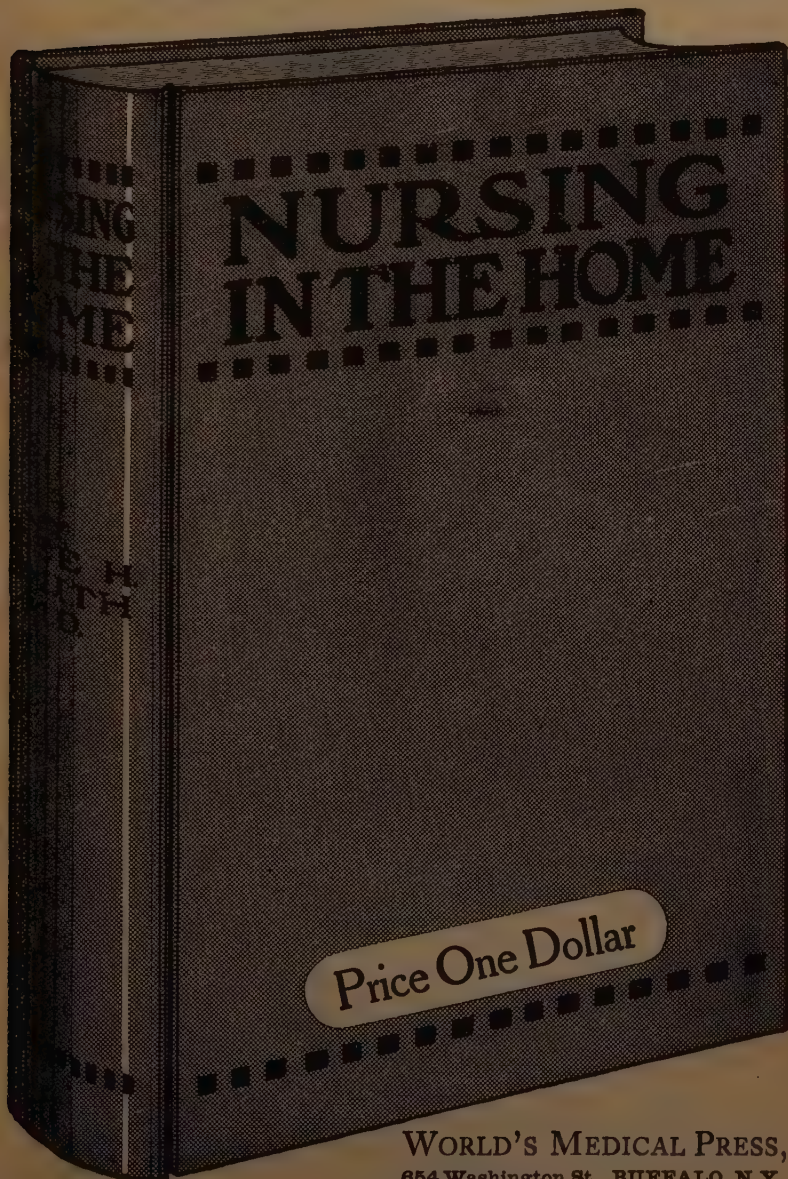


The Alpine Quartz Lamp in use at the Invalids Hotel

Quartz Lamp generates a light which is very rich in the real Ultra-Violet Rays. They are more powerful than sunlight. They are used in all run-down, weakened or anemic cases, and in these they act as a general tonic. The Ultra-Violet Rays greatly improve the quality of the blood which in turn carries more nourishment to the various parts of the body. In nervous disorders they are very beneficial as they increase the calcium in the body. (This is a chemical which is usually deficient in nervous troubles.) The Alpine Lamp is also used with excellent results in many local conditions such as neuralgias, neuritis, sciatica and many skin diseases.

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WORLD'S MEDICAL PRESS,
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Map of Central Portion of BUFFALO,

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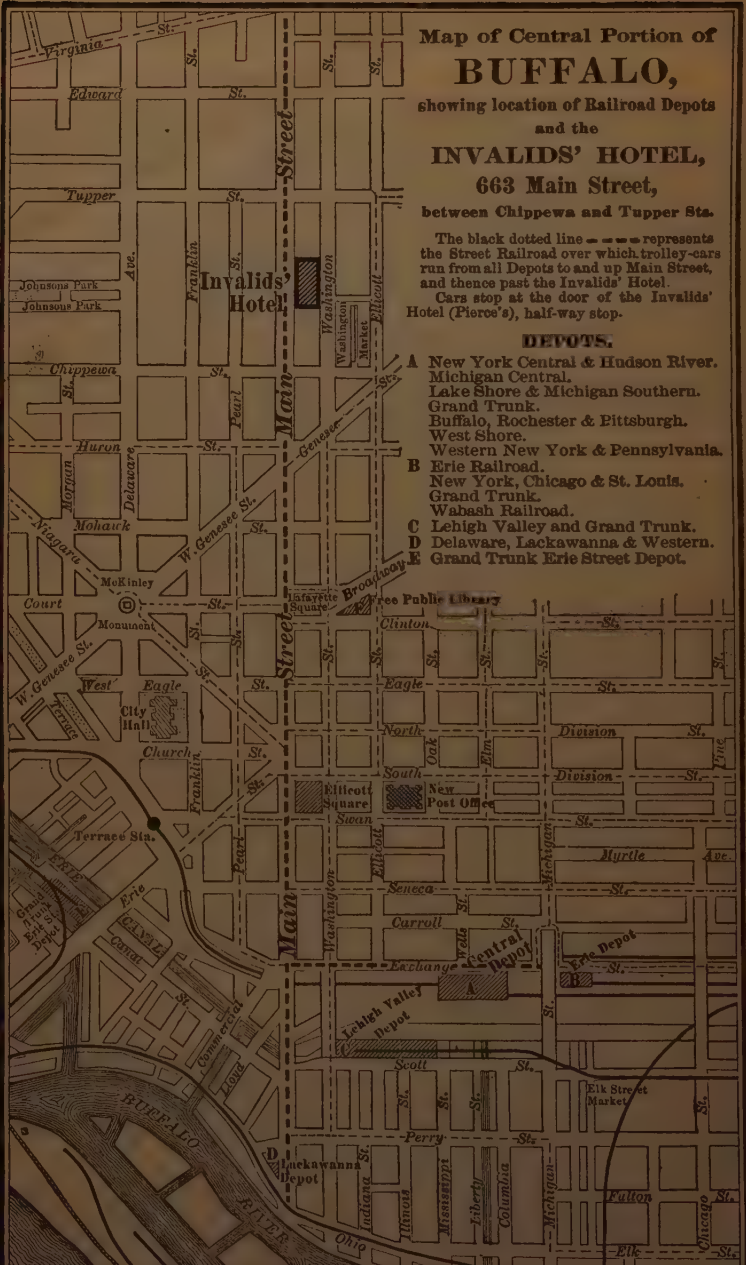
between Chippewa and Tupper Sta.

The black dotted line - - - - represents the Street Railroad over which trolley-cars run from all Depots to and up Main Street, and thence past the Invalids' Hotel.

Cars stop at the door of the Invalids' Hotel (Pierce's), half-way stop.

DEPOTS.

- A New York Central & Hudson River.
Michigan Central.
Lake Shore & Michigan Southern.
Grand Trunk.
Buffalo, Rochester & Pittsburgh.
West Shore.
Western New York & Pennsylvania.
- B Erie Railroad.
New York, Chicago & St. Louis.
Grand Trunk.
Wabash Railroad.
- C Lehigh Valley and Grand Trunk.
- D Delaware, Lackawanna & Western.
- E Grand Trunk Erie Street Depot.



VOCABULARY

OF THE

COMMON SENSE MEDICAL ADVISER,

GIVING EACH TECHNICAL WORD EMPLOYED, REFERRING TO ITS ILLUSTRATION WHEN POSSIBLE, AND IN CASE THE WORD WILL NOT PERMIT OF A SHORT DEFINITION, REFERRING TO THE PAGE WHERE A FULL DESCRIPTION OF ITS MEANING MAY BE FOUND.

A

Abdomen. The part of the body between the diaphragm and pelvis, containing the stomach, intestines, etc. The belly.

Abdominal. Belonging to the abdomen.

Abortion. Expulsion of the fœtus before the seventh month of pregnancy.

Absorption. The function of taking up substances from within or without the body.

Acetabulum. The bone socket which receives the head of the thigh bone.

Acne. Pimples upon the face, more common at the age of puberty.

Adipose Tissue. A thin membrane composed of cells which contain fat.

Adventitious. Acquired.

Albumen in Urine. In chemical composition resembles the white of an egg, and is detected by the application of heat, nitric acid, etc.

Albuminoid. Of the nature of albumen.

Albuminuria. A condition or disease in which the urine contains albumen. See above.

Alimentary Canal. The canal extending from the mouth to the anus, through which the food passes.

Allopathy. Allopathic school. Defined on page 293.

Alterative. A medicine which gradually changes the constitution, restoring healthy functions.

Alveolar Process. The bony structure which contains the sockets of the teeth.

Amaurosis. Loss or decay of sight from disease of the optic nerve.

Amenorrhea. Suppression of the menses.

Amnion. A membrane enveloping the fœtus and the liquid.

Amputation. The operation of cutting off a limb.

Amyloid Degeneration. Alteration in the texture of organs, which resembles wax or lard.

Amyloids. Foods composed of carbon and hydrogen; as sugar, starch, etc.

Anæmia. Privation of blood. Lack of red corpuscles in the blood.

Anasarca. Dropsy attended with bloating all over the body.

Anatomy. The science of the structure of the body.

Anæsthetic. An agent that prevents feeling in surgical operations, and in some diseases of a painful nature.

Angina (Pectoris). Violent pain about the heart, attended with anxiety and difficult breathing.

Animalcula, Animalcule. An animal so small as to be invisible, or nearly so, to the naked eye.

Anodynes. Medicines which relieve pain.

Anteversión. The womb falling forward upon the bladder. Illus. page 707.

Anthelmintics. Medicines which destroy or expel worms from the stomach and intestines.

Antidote. A remedy to counteract the effect of poison.

Antifebrile. A remedy which abates fever.

Antiperiodic. A remedy which prevents the regular appearance of similar symptoms in the course of a disease.

Antiseptic. Medicines which prevent putrefaction.

Antispasmodics. Medicines which relieve spasm.

Anus. The circular opening at the end of the bowel, through which the excrement leaves the body.

Aorta. The great artery of the body arising from the heart. Illus. page 58.

Aperient. A medicine which moves the bowels gently.

Aphthæ. Sore mouth, beginning in pimples and ending in white ulcers.

Aphthous. Complicated with aphthæ.

Apnoea. Short, hurried breathing.

Apoplexy. The effects of a sudden rush of blood to an organ; as the brain, lungs, etc. Brain pressure, from rupture of a blood vessel.

Appendicitis. Inflammation of the appendix vermiformis.

Aqueous Humor. Clear fluid contained in the front chamber of the eye.

Arachnoid. A thin, spider-weblike membrane covering the brain.

Areolar Tissue. Network of delicate fibres spread over body, binding the various organs and parts together.

Artery. A vessel carrying blood from the heart to the various parts of the body; usually red in color.

Articular. Relating to the joints.

Articulated. Jointed.

Articulations. The union of one bone with another. A joint.

Ascites. Accumulation of fluid in the abdominal cavity.

Asphyxia. A condition of apparent death owing to the supply of air being cut off; as in drowning, inhalation of gases, sunstroke, etc.

Aspirator. An instrument for the evacuation of fluids from the cavities of the body, as water in abdominal dropsy, the contents of tumors, etc.

Assimilation. Appropriating and transforming into its own substance, matters foreign to the body.

Astringents. Medicines which contract the flesh.

Atonic, Atony. Wanting tone.

Atrophied. Wasted; lessened in bulk.

Atrophy. Wasting away; diminution in size.

Auditory Nerves. The nerves connecting the brain with the ears and employed in exercising the sense of hearing.

Auscultation. Diagnosing diseases by listening, either with or without instruments.

B

Balanitis. Gonorrhea of the mucous surface of the head of the penis.

Benign. Harmless; a term applied to tumors.

Beverage. A liquor for drinking.

Bile. A yellow bitter fluid secreted by the liver. Defined on page 80.

Bilious. Disordered in respect to bile. Relating to bile.

Bilious Temperament, Volitive Temperament.

Bistoury. A small cutting knife.

Bladder (Urinary). The organ, situated behind the pubic bone, which holds the urine until its expulsion.

Blebs. Eminences of the skin containing a watery fluid.

Bloody-flux. A disease characterized by frequent, scant, and bloody stools.

Boil. An inflamed tumor which comes to a head and discharges matter and a core. See page 443.

Bolus. A large pill.

Bougie. A long, flexible instrument used for dilating contracted canals and passages.

Breach. Some form of hernia of the abdomen. See page 362.

Broad Ligaments of the Uterus. Folds of the peritoneum which support the womb and contain the Fallopian tubes and ovaries.

Bronchia. Tubes formed by the division of the windpipe. Illus. page 64.

Bronchocele. Thick neck; goitre.

Bubo. An inflammatory tumor in the groin.

Bulla. A bleb or large pimple containing transparent fluid.

C

Cachexia. A depraved condition of the system; as from poor food, syphilis, etc.

Calcareous. Containing lime.

Calcification. The process of forming of, or converting into, chalk.

Calculus, Calculi. Stones or similar concretions formed by the deposit of solid matter; of lime, soda, uric acid, urates, oxalates, etc.

Calisthenics. Healthful exercise of the body and limbs, for purposes of strength and agility.

Cancellated Structure. Cells communicating with each other, forming a structure resembling "lattice-work."

Canker. Ulcers in the mouth.

Capillaries. Very small blood vessels. Defined on page 60.

Carbonic Acid. A heavy, poisonous gas. Choke damp.

Cardiac. Pertaining to the heart. Near or towards the heart.

Carminatives. Medicines which allay pain in the stomach and intestines by expelling the gas.

Carotids. The great arteries at the sides of the neck.

Cartilage. A solid part of the body found in the joints, ends of the ribs, etc. It is softer than bone but harder than ligament.

Cartilaginous Tissue. Parts of the body of the nature of cartilage.

Carunculae. Fleshy growths.

Casein. The part of milk which contains nitrogen. Cheese curd.

Catalytics. Medicines which destroy morbid agencies in the blood. Alteratives.

Catamenia. Monthly flow of the female.

Cataract. Opacity of the lens of the eye, or its covering, or both.

Cathartics. Medicines which cause evacuation of the bowels.

Catheter. A hollow tube introduced into the bladder through the urethra for the purpose of drawing off the urine.

Caustics. Substances which destroy animal tissue.

Cauterization. Burning or searing by a hot iron, or caustic medicines.

Cauterize. To burn or sear by a hot iron, or by medicines which destroy.

Cell. A little vessel having a membranous wall and containing fluid. The whole body may be considered as formed of different kinds of cells.

Cellular Structure. See **Cancellated Structure.**

Cerebellum. Little brain. Base brain. Illus. page 100.

Cerebrum. The upper or large brain. Illus. page 100.

Cervix. Neck; neck of the womb.

Chalybeate. Mineral waters which contain iron.

Chancre. A virulent, syphilitic ulcer. Figs. 27 and 28, Plate V., Pamphlet X.

Chancroid. Resembling infectious chancre. Soft chancre.

- Chlorosis.** Green sickness. A disease of young women attended with a greenish hue of the skin, debility, etc.
- Cholagogues.** Cathartics which stimulate the liver.
- Chordæ Tendinæ.** Cordlike substances about the valves of the heart. See page 57.
- Chordee.**
- Choroid.** The dark colored lining membrane of the eye.
- Chyle.** Food digested and ready for absorption. See pages 45 and 49.
- Chylous Products.** See **Chyle**.
- Chyme.** Food after being subjected to the action of the gastric fluids.
- Cicatrix.** The scar or place where parts, which have been cut or divided, are united.
- Cilla.** Small hairs.
- Circumcision.** An operation for removing superfluous foreskin.
- Circumvallate.** Arranged in oblique lines, as the prominences on the back of the tongue.
- Clap.** Gonorrhea. A venereal disease of the urethra.
- Clavicle.** See **Collar-bone**.
- Clinical Medicine.** Investigation of disease at the bedside.
- Coagulate.** To thicken or harden, as heat hardens the white of an egg.
- Cotition.** Sexual intercourse. The act of generation.
- Collar-bone (Clavicle).** A bone at the front and top of chest, attached by one end to the breast-bone and by the other to the shoulder-blade.
- Colon.** Part of the large intestines. *Illus.* page 40.
- Coma.** A condition of profound sleep from which it is difficult to arouse the patient.
- Comedones.** Pimples on the face. See page 442, and Fig. 8, Plate II.
- Compress.** A soft cloth folded to several thicknesses, so that with a bandage pressure can be applied, or by wetting in hot water, a part can be subjected to the influences of heat and moisture.
- Conception.** Impregnation of the ovum; the beginning of a new being.
- Congenital.** Applied to a disease born with one; from birth.
- Congestion.** An abnormal amount of blood in a part or organ.
- Conjunctiva.** The membrane which covers the external surface of the eyeball.
- Conjunctivitis.** Inflammation of the eye.
- Contagion.** The transmission of disease from one to another by contact, as hydrophobia, syphilis; or otherwise, as measles, scarlet fever, etc.
- Contagious.** Capable of being transmitted from one person to another.
- Continence.** Abstinence from sexual intercourse or excitement.
- Convalescence.** The recovery of health after sickness.
- Convolut.** Curved or rolled together.
- Copulation.** Sexual intercourse.
- Corium.** A layer of the skin.
- Cornea.** A transparent covering of the front of the eye.
- Corpuscles of the Blood.** Defined and illustrated on page 53.
- Counter-irritants.** Defined on page 331.
- Cowper's Glands of the Male.** Glands situated in front of the prostate gland.
- Coxalgia.** Hip-joint disease. See page 450.
- Cranium.** The skull. The bones of the head.
- Crayons.** Sticks or cylinders made of Cocoa butter and medicated.
- Cross-eye.** One or both eyes drawn towards the nose. Squint.
- Crustaceous.** Belonging to the class of animals covered by a crustlike shell.
- Cutaneous.** Belonging to, or affecting the skin.
- Cuticle.** The outer layer of the skin, consisting of small bony scales.
- Cystitis.** Inflammation of the bladder. In chronic form, Catarrh of the bladder.

D

- Debris.** Broken-down tissue. Waste material.
- Decoction.** Defined on page 303.
- Defecation.** Voiding excrement from the body.
- Degeneration, Fatty.** The deposit of particles of fat instead of the proper muscular tissue.
- Deglutition.** Swallowing. Conveying food to the stomach.
- Dejection of Mind.** Despondency. Low spirits.
- Defections.** The matter voided from the bowels.
- Deleterious.** Destructive. Poisonous.
- Dentition.** Cutting of the teeth in infancy.
- Deodorizer.** A substance that destroys a bad smell.
- Depletion.** To empty the blood vessels by lancing a vein or by medicines.
- Depravation.** Corruption.
- Depurating.** Cleansing.
- Dermatologist.** One who makes diseases of the skin a specialty.
- Desiccate.** To dry up.
- Desquamation.** Scaling off of the skin, after fevers.
- Desquamative Nephritis.** Bright's Disease, in which epithelial cells escape with the urine.
- Diabetes.** Defined on page 829.
- Diagnosis.** The determination of a disease by its symptoms or characteristics.
- Diagnostic.** The symptoms by which a disease is distinguished from others.
- Diaphoretic.** Medicines which increase perspiration.
- Diaphragm.** Defined on page 32.
- Diathesis.** Peculiarity of constitution. Predisposition to certain diseases.
- Digestion.** The function by which food passing along the alimentary canal is prepared for nutrition.

Dilatation. Increasing in size by instruments or other agencies.

Diluents. Fluids which thin the blood or hold medicines in solution.

Director. An instrument having a groove which directs the knife and protects underlying parts from injury.

Disinfectants. Substances which arrest putrefaction.

Dislocation. The act of, or state of, being forced from its proper situation.

Distilled. Separated by heat from other substances and collected by condensation.

Diuretics. Medicines which increase the flow of urine.

Douche. Dashes of water. An instrument for washing the nasal membrane.

Drastics. Medicines which move the bowels harshly or frequently.

Dropsy. The accumulation of fluid in the cavities or cellular tissue of the body.

Duodenum. The first portion of the intestines. Illus. page 44.

Dura Mater. A thick, fibrous membrane lining the skull.

Dyscrasia. A bad condition of the body.

Dysentery. A disease characterized by frequent, scanty and bloody stools.

Dysmenorrhea. Difficult or painful menstruation.

Dyspnea. Difficult breathing.

E

Ear, Internal. Defined on page 110. Illus. page 109.

Earthy Phosphates. The white deposit in urine, composed of phosphoric acid and a base.

Echymosis. Black or yellow spots produced by effused blood. Black eye is an example.

Eclectic School. See page 294.

Ecraseur. An instrument which amputates by a loop of wire.

Eczematous. Of the nature of Eczema. See page 430.

Edema (Oedema). Puffiness of the skin from the accumulation of fluid. General dropsy.

Effluvia. Unpleasant odors or exhalations.

Effusion. The pouring out of blood or other fluid.

Electrolysis. Decomposing or modifying by the application of electricity.

Eliminated. Discharged, expelled.

Emaciation. Leanness in flesh.

Embryo. The young of an animal at the beginning of its development in the womb.

Emetics. Medicines which empty the stomach upwards.

Emmenagogues. Medicines which favor or cause menstruation.

Empiricism. Practicing medicine upon results of experience, generally by a person without a medical education.

Encephalic Temperament.

Endocarditis. Inflammation of the lining membrane of the heart.

Endocardium. The lining membrane of the heart.

Endometritis. Disease of the lining membrane of the womb.

Enteric. Intestinal.

Enteritis. Inflammation of the mucous lining of the small intestines.

Epidemics. Diseases which attack a number of persons at the same time; as yellow fever, smallpox, etc.

Epiglottis. A cap over the windpipe, allowing the admission of air, but preventing the introduction of foreign bodies.

Epithelial Cells. Cells belonging to the epithelium.

Epithellum. The thin covering upon the lips, nipple, mucous and serous membranes and lining the ducts, blood vessels and other canals.

Esophagus (Oesophagus). The food-pipe. Illus. page 44.

Eustachian Tube. The tube leading from the throat to the inner ear. Illus. page 109.

Evacuant. Cathartic.

Excoriates. Removes the skin in part.

Excoriation. A wound which removes some of the skin.

Excrementitious. Pertaining to the matter evacuated from the body.

Exerescences. Surface tumors; as warts, piles, polypi, etc.

Excretion. The process by which waste materials are removed from the blood, performed particularly by the lungs, skin and kidneys.

Excretory Ducts. Minute vessels which transmit fluid from glands.

Exhalations. That which is thrown off by the body, as vapor, gases, etc.

Expectorants. Medicines which promote discharges from the lungs.

Expiration. Expelling the breath.

Extraneous Matter. Any substance which finds a place in the body and does not belong there. Foreign substances.

Extra-uterine. Outside of the womb, but in its vicinity.

Extravasated. Escaped into surrounding tissues.

Extremities. Legs or arms.

Exudation. Substances discharged through the pores.

Exude. To sweat; to pass through a membrane.

F

Fallopian Tube. The canal through which the ovum passes from the ovary to the womb.

Faradization. The application of electricity by inductive currents.

Fascia. The white fibrous expansion of a muscle which binds parts together.

Fatty Degeneration. The deposit of particles of fat instead of proper muscular tissue.

Febriuge. A medicine which abates or cures fevers.

Febriile. Relating to fever.

Fecundation. The ovum uniting with the male germ. Impregnation.

Femoral Hernia. Thigh hernia. Illus. page 862.

Fermented. Changed by a process of decomposition.

Ferruginous. Containing iron.

Fetid. Having an offensive smell. Stinking.

Fetor. Offensive smell. Stench.

Fibrous. Composed of fibres.

Fibrous Tissue. The texture which unites every part of the body.

Filaments. Fibre; the basis of texture.

Fimbriated. Fingerlike.

First Intention, Healing by. Healing without suppuration or the formation of pus.

Fissure. A crack.

Fistula; Fistulæ. Small canals or tubes which carry pus or other liquids through the flesh.

Fistula, Urinary. The abnormal communication between the urinary passages and the external surface.

Fistulous Openings. The outer end of canals or tubes which carry pus to the surface.

Flatulency. Wind gathered in the stomach or bowels.

Flexion of the Womb. A partial displacement in which the womb is bent upon itself.

Flexures. Bending. Motion of a joint.

Flocculent. Combining or adhering in flocks or flakes.

Fluid Extracts. The active principles of medicines in fluid form.

Fœtus. The unborn child.

Follicles (of hair). Small depressions in the skin.

Follicular. Relating to or affecting follicles.

Fomentations. Local application of cloths wrung out of hot water.

Forceps. An instrument having a motion and use like the thumb and forefinger. Pincers. Obstetrical forceps embrace the head of the fœtus.

Foreskin. That part of the skin of the penis which is prolonged over the head of the organ.

Formication. A sensation like a number of ants creeping on a part.

Fracture. Broken bone. In *compound fracture* the end of the bone projects through the skin.

Function. The peculiar action of an organ, or part of the body.

Functional. Pertaining to the specific action of an organ or part.

Fundus. The bottom or base of an organ. The fundus of the womb is its upper part, when in its natural position.

Fungiform. Mushroom-shaped.

G

Galvanism. Electricity.

Galvano-cautery. Burning or searing by galvanic electricity.

Ganglion. A nerve center which forms and distributes nerve power.

Gangrene. Death of a part.

Gastric. Pertaining to the stomach.

Gastric Juice. The digestive fluid supplied by the mucous membrane of the stomach.

Gelatinous. Jellylike.

Generation. The functions which are active in reproduction.

Genitals. The sexual organs.

Gestation. Carrying the embryo in the uterus.

Glans. Head of the penis.

Gonorrhea. A discharge of mucus from inflammation of the urethra or vagina, caused by impure connection. Clap.

Granular Casts. Moulds of epithelium found by the microscope in chronic Bright's Disease.

Granular Lids. Roughness on the inner surface of the eyelids.

Granulation, Heal by. See **Granulations.**

Granulations. Fleshlike shoots, which appear in a wound and form its scar.

Granules. Small grains.

Gravel. Substances precipitated in the urine resembling sand.

Groin. The oblique depression between the belly and thigh.

Grubs. Pimples on the face. See page 442.

Gynecologist. One who makes the diseases of women a specialty.

H

Hair Bulbs. The expansion or root of the hair.

Hallucinations. Perception or sensation of objects which do not exist; as in Tremens.

Hectic. Constitutional; as hectic fever, in which all parts of the body become emaciated.

Hemiplegia. Paralysis affecting only one side of the body.

Hemorrhoidal Veins. The veins about the rectum which enlarge and form piles.

Hepatic. Relating or belonging to the liver.

Hereditary. A disease transmitted from parent to child.

Hernia. Defined on page 862.

Hollow of the Sacrum. The concave portion of the lower part of the spinal column within the pelvis.

Homeopathy. Defined on page 294.

Hyaline Casts. Glassy appearing substances found by the microscope in urine in chronic Bright's Disease.

Hydragogues. Cathartics, which produce copious watery discharges.

Hydrocele. Accumulation of fluid in the scrotum.

Hydrocephalus. Accumulation of fluid in the membranes about the brain.

Hydrothorax. Accumulation of fluid in the chest cavities.

Hygiene. The principles or rules for the promotion or preservation of health.

Hymen. Described on page 716.

Hyperæmia. Full of blood. Congestion.

Hypertrophy. Enlargement, thickening.

Hypochondriac. A person, usually dyspeptic, who is unreasonably gloomy, particularly about his health.

Hypodermic Syringe. An instrument having a very fine tube and needle-like point, by which medicines are lodged immediately under the skin.

Hysterotome. An instrument described and illustrated on page 713.

Idiopathic. Primary; not depending on another disease.

Illicit. Not permitted; unlawful.

Illusions. See **Hallucinations**.

Impacted. Wedged. Applied to feces which have remained in the rectum a long time.

Imperforate. Without a natural opening.

Impotency. Loss of sexual power.

Impregnation. Imparting the vital principle of the sperm-cell to the germ-cell, by which a new being is created.

Incipient. Commencement; first stage.

Independent Physician. Defined on page 295.

Indigenous. Native. Grows in a country.

Indolent. Painless; a term applied to tumors.

Induration. Hardening of a part or organ.

Infection. A prevailing disease. A disease spread only by contact, as itch, syphilis, etc.

Infiltration. The passage of fluid into the cellular tissue; as in General Dropsy.

Inflammation. Defined on page 398.

Infusion. Defined on page 303.

Inguinal Canal. A canal situated in the groin, through which the spermatic cord passes. The common seat of hernia. *Illus.* page 862.

Inoculate. To communicate a disease by inserting matter in the flesh; as by vaccination.

Inorganic. Mineral. Bodies without *life*.

Insalivation. Mixed with the saliva of the mouth, as food.

Insemination. The emission of sperm in coition.

Inspiration. Drawing in the breath.

Integument. The skin.

Intention, Healing by First. Healing without the formation of pus.

Intercostal. Between the ribs.

Intermittent. Having paroxysms or intervals.

Internal Ear. Described on page 110; *illus.* page 109.

Intussusception. One part of the intestines forced into another part.

Invagination. See **Intussusception**.

Iridectomy. A surgical operation for the removal of the iris.

Iris. A curtain which gives the eye its color.

Isolation. Separation from others.

K

Kadesh-barnea. The holy place in the desert of wandering; the headquarters of the Israelites for 37 years.

Laboratory. The workroom of a chemist or pharmacist.

Laceration. A wound made by tearing.

Lachrymal. Belonging to the tears.

Lachrymal Glands. Minute organs about the eyes which secrete tears.

Lactation. The act of giving suck.

Lacteals. The vessels of the breast which convey milk.

Lamella. Layer.

Laminae. Thin bones, or the thin parts of a bone.

Lancinating. Acute, shooting pains fancifully compared to the pierce of a lance.

Larynx. That portion of the air passage indicated in the male by "Adam's Apple."

Lascivious. Lustful; producing unchaste emotions.

Lateral Operation. Cutting through the perineum into the bladder.

Laxatives. Medicines which move the bowels gently.

Lesion. Derangement. Tearing or other division of parts, previously continuous.

Leucorrhœa. Described on page 727.

Liberal Physician. Defined on page 295.

Ligament. A white inelastic tendon, binding bones together.

Ligation. See **Ligature**.

Ligature. A cord or catgut tied around a blood vessel to arrest hemorrhage.

Line. One-twelfth part of an inch.

Lithic Deposits. Sediment or *concrements* formed in the urine by uric acid.

Lobes. Round projecting parts of an organ; as lobes of the lungs, of the liver, etc.

Loin. The side of the body between the hip bone and ribs.

Lotion. A wash.

Lumbago. Rheumatism in the small of the back and loins.

Lumbar Vertebrae. That part of the backbone in the vicinity of the loins.

Lymph. A transparent fluid, resembling blood, found in lymphatic vessels. It contains corpuscles and coagulables.

Lymphatics. Defined on page 49.

Lymphatic Temperament.

M

- Malaria.** See **Miasm.**
- Malformation.** Irregularity in structure.
- Malignant.** Applied to diseases which threaten life.
- Mammæ.** See **Mammary Glands.**
- Mammalla.** Animals that suckle their young.
- Mammary Glands.** The breasts or organs which secrete milk.
- Manipulations.** Examination and treatment by the hand.
- Massage.** Kneading, rubbing and stroking the surface to improve circulation and nutrition and to remove effete material.
- Mastication.** Chewing.
- Masturbation.** Excitement of the sexual organs by the hand.
- Meatus.** Canal or passage. External opening of a canal.
- Median Section.** An operation for stone in the bladder in which the perineum and part of the urethra are cut; the prostatic portion of the urethra is dilated to introduce forceps and withdraw the stone.
- Medulla Oblongata.** Described on page 95; illus. page 96.
- Melancholia.** A mild form of insanity attended with great gloom and mental depression.
- Membranous.** Of the nature or construction of membrane.
- Meninges.** Membranes covering the brain.
- Menorrhagia.** Immoderate monthly flow.
- Menses.** Monthly flow of the female. See page 709.
- Menstruation.** The bloody evacuation from the womb.
- Menstruum.** A solvent; as water, alcohol, etc.
- Mesenteric Glands.** Glands about the peritoneum which secrete lymph.
- Mesentery.** Described on page 49.
- Miasm, Miasma.** A poisonous, gaseous exhalation from decaying vegetation, or from the earth.
- Midwives.** Females who attend women at childbirth.
- Miscarriage.** Defined on page 684.
- Molecule.** A minute portion of any body.
- Monads.** The smallest of all visible animalcules.
- Monomania.** Insanity on one subject.
- Muco-purulent.** Composed of mucus and pus.
- Mucous Membrane.** The thin, weblike lining to the canals and cavities which secretes a fluid by which it is constantly lubricated.
- Mucus.** A mucilaginous fluid found on the surface of certain membranes which keeps them soft and pliable. See **Mucous Membrane.**
- Muscle.** The structures of the body which execute movements.

- Muscular Tissue.** The flesh forming the muscles of the body.
- Myalgia.** Muscular rheumatism.

N

- Narcotics.** Medicines which stupefy.
- Necrosis.** Mortification or death of bone.
- Nervines.** Defined on page 345.
- Nervous Tissue.** That part of the body composed of nerve fibres.
- Neuralgia.** Described on page 635.
- Nicotin.** A poisonous principle of tobacco.
- Nitrogen.** One of the gases in the atmosphere.
- Nodes.** Hard lumps, principally found upon the bones in syphilis.
- Noxious.** Injurious.
- Nymphomania.** Extreme desire for sexual intercourse in the female.

O

- Obstetrical.** Relating or appertaining to childbirth.
- Occlusion.** Approximation or closure.
- Edema.** See **Edema.**
- Olfactory Nerve.** The nerve employed in the sense of smell. Illus. page 111.
- Onanism.** See **Masturbation.**
- Opacity.** Opaque condition of parts of the eye, causing blindness.
- Opalescent.** Reflecting a milky light.
- Opaque.** See **Opacity.**
- Ophthalmia.** Inflammation of the eye.
- Ophthalmic.** Belonging to the eye.
- Ophthalmoscope.** An instrument for examining the inside of the eye, for diagnostic purposes.
- Optic Nerve.** The nerve connecting the brain and eye, and employed in the sense of sight.
- Organic.** Pertaining to the structure of an organ.
- Orifice.** Opening or mouth.
- Osseous Tissue.** Bony structure.
- Ossification, Ossifying.** Made into bone by the deposit of phosphate of lime.
- Os Uteri.** Mouth of womb.
- Ova.** Plural of ovum.
- Ovaries.** Two ovoid bodies situated either side of the womb.
- Ovary.** The female organ in which the ovum, or germ-cell is formed.
- Ovulation.** The formation of the germ-cell in the ovary and its release from that organ.
- Ovum.** The female reproductive cell; an egg.
- Oxygen.** The vital gas of the atmospheric air.
- Ozena.** Described on page 474.

P

- Palliative.** A remedy or treatment which relieves, but does not cure.
- Papilla, Papillæ.** Small, nipple-shaped prominences found on the tongue, the skin, etc

- Paraplegia.** Paralysis affecting the upper or lower extremities of the body.
- Parasites.** Animals which live in the bodies of other animals; as the tapeworm, itch insect, etc.
- Parenchyma.** The texture of an organ; as the liver, kidneys, etc.
- Parotid Glands.** These are situated under the ear, just at the angle of the lower jaw, and secrete saliva.
- Paroxysms.** The periodical attack, fit or aggravation in the course of a disease.
- Parturient.** Bringing forth or having recently brought forth.
- Parturition.** Labor; the delivery of the foetus.
- Pastiles.** Small medicated lozenges.
- Pathognomonic.** A characteristic symptom of a disease.
- Pathology.** That part of the Science of Medicine, the object of which is the knowledge of disease.
- Pedicle.** The stalk or narrow part of a tumor by which it is attached and supported.
- Pelvic.** Belonging to and relating to the pelvis.
- Pelvis.** The lower part of the abdomen or trunk, composed of bone, containing the genital and urinary organs; supports the backbone and is supported by the legs.
- Penis.** The male organ of generation.
- Pepsin.** The digestive solvent secreted by the stomach.
- Peptic.** Pertaining to the stomach.
- Percussion.** Striking the surface and by the sound produced judging of the condition of the internal organs.
- Pericarditis.** Described on page 548.
- Pericardium.** The membranous sac enclosing the heart.
- Perineal Section.** An operation by division of the perineum.
- Perineum.** The space bounded by the end of the spine, sexual organs and the bony prominences on which one sits.
- Pariostium.** The membranous covering to all bones.
- Peristaltic Motion.** A wormlike movement of the bowels by which the food is moved forward.
- Peritoneum.** The membrane (serous) which lines the abdominal cavities and surrounds the intestines.
- Peritonitis.** Inflammation of serous membrane lining abdominal and pelvic cavities.
- Pessaries, Pessary.** An instrument for holding the womb in its place.
- Pestilence.** A malignant, spreading disease. A plague.
- Phagadente.** That which corrodes or eats away rapidly.
- Pharmaceutical.** Anything belonging to pharmacy.
- Pharynx.** The cavity back of the mouth and palate through which the air passes when breathing and the food when swallowing.
- Phimosis.** Elongated prepuce.
- Phlegmonous.** Affecting the cellular membrane. The common boil is an example.
- Phosphate.** A substance containing phosphorus.
- Phosphates, Earthy.** The white deposit in urine composed of phosphoric acid and a base.
- Phthisic.** Consumption. By some the word is used for Asthma, or difficulty in breathing.
- Phthisis.** Consumption. See page 497.
- Physiological Anatomy.** The branch of medicine that defines the organs of the body and their particular actions.
- Physiology.** The science which treats of the phenomena and functions of animal life.
- Pia Mater.** The internal vascular membrane covering the brain.
- Pimples on the Face.** Defined on page 442.
- Placenta.** Afterbirth.
- Plague.** A malignant epidemic; begins in Asia Minor.
- Plethora, Plethoric.** Full of blood; may be general or confined to a part.
- Pleura.** Defined on page 64.
- Pleurodynia.** Spasmodic or rheumatic pain in the chest muscles.
- Pleuro-pneumonia.** Inflammation of both the pleura and lungs.
- Pollution (Self).** Excitement of the sexual organs by the hand or other unnatural method.
- Polyp.** An aquatic animal, as the coral builders.
- Polypi.** More than one polypus.
- Polypoid.** Like a polypus in shape or construction.
- Polypus.** Tumors which grow from mucous membranes, commonly found in the nasal and vaginal cavities.
- Portal Vessels.** The cluster of veins which join and enter the liver.
- Pott's Disease.** Caries of the vertebrae, causing angular curvature of the spine.
- Poultice.** A mixture of bread or meal, etc., and hot water, spread on a cloth and applied to the surface.
- Pox.** Syphilis.
- Precocity.** Prematurely developed.
- Prehension.** Carrying food to the mouth.
- Prepuce.** Foreskin.
- Probang.** Soft swab.
- Probe.** An instrument for examining wounds and cavities. A piece of wire with a blunt point is a probe.
- Procreation.** Production or generation of offspring.
- Prognosis.** Opinion of the future course of a disease.
- Prolapsus.** A falling down of an organ through an orifice, as the womb, bowel, etc.
- Prophylactic.** Preventive.
- Proprietary Medicines.** Described on page 248.
- Prostate Gland.** Described on page 777.
- Protoids.** Foods composed of carbon, hydrogen, oxygen and nitrogen; as the white of an egg.

Protozoon. First life; life in the lowest scale; as sponges.

Proud-flesh. Abnormal growths which arise in wounds or ulcers.

Pruritic. Itching.

Pruritus Vulvæ. A nervous disease attended with excessive itching of the external genital parts of the female.

Psoas or Lumbar Abscess. An abscess discharging at the groin.

Psychical. The relation of the soul to animal experiences and being.

Psychological. The spiritual potencies of the soul.

Ptyalin. The ferment of the saliva which converts starch into sugar.

Puberty. The age at which the subject is capable of procreation.

Pubic. Relating to the pubes, a part above the genital organs, covered with hair at puberty.

Puerperal Fever. Child-bed fever.

Pulmonary. Relating to the lungs.

Pupil. The circular opening in the colored curtain within the eye.

Purgatives. Medicines which cause evacuation of the bowels.

Purulent. Discharging pus; as an ulcer.

Pus. A yellowish, inodorous, creamy secretion from inflamed parts; contained in abscesses or discharging from ulcers.

Pustular. Belonging to or affected by pustules.

Pustule. An elevation on the skin, containing pus or "matter," and having an inflamed base.

Putrescence. Decomposition, rottenness.

Putrescent. Decomposing offensively.

Putridity. Corruption.

Pyæmia. Blood poisoning from the absorption of decomposing pus or "matter."

Pyloric Orifice. The lower opening of the stomach; illus. page 39.

Pyriform. Shaped like a pear.

Q

Quickening. The time when the motion of the fœtus within the womb is first perceptible; between the fourth and fifth months of pregnancy.

R

Radical Cure. A cure in which the disease is entirely removed, root and branch.

Rales. Noises produced by air passing through mucus in the lungs.

Rectal. Pertaining to the rectum.

Rectum. The lower portion of the intestines terminating in the anus.

Recumbent. Reclining.

Reflex Action. See pages 93 and 99.

Regurgitation. The act by which blood is forced backwards in an unnatural manner.

Remission. A temporary diminution of the symptoms of fever.

Reproduction. Producing living bodies similar to the parents.

Resolution. The disappearance of inflammation without suppuration.

Respiration. The function by which the blue blood is converted into red blood in the lungs.

Respirator. Described on page 230.

Retina. Defined on page 107.

Retrocedent. Moving from one part of the body to another; as gout.

Retrocession. Change of an eruption from the surface to the inner parts.

Retroversion. A change in the position of the womb in which the top falls back against the rectum.

Revulsion, Revulsive. Calling the blood away from the diseased part.

Rickets. A disease in children characterized by crookedness of the spine and long bones resulting from scrofula or poor and insufficient food.

Rickety. Affected with rickets.

Rings (Hernial). Circular openings with muscular edges through which a vessel or part passes.

Rubefacents. Medicines which produce redness of the skin.

Rupture. Bursting. Hernia.

S

Saccharine. Like or containing sugar.

Saliva. The secretion of the glands of the mouth.

Salpæ. Little sacklike-shaped, soft, fleshy bodies, found in the open ocean, and sometimes phosphorescent.

Sanative. Curative. Tending to restore lost health.

Sanguine Temperament.

Sanitarium. An institution for the treatment of the sick. A healthy retreat.

Scales. The epidermis or outer part of the skin consists of minute scales. See Fig. 50, page 71.

Scalp. The skin covering the head.

Scapula. Shoulder blade.

Sciatic Nerve. The great nerve of the thigh.

Scirrhus. Stony hardness, characteristic of cancer.

Sclerotic Coat. The hard, pearly white covering of the eye.

Scorbutic. Producing scurvy, a disease caused by improper or insufficient food.

Scorbutus. Scurvy.

Scrofulous. Suffering from a condition of the system characterized by enlargement of the glands, eruptions, etc., with great susceptibility to contagion.

Scrotum. The bag of skin which covers the testicles.

Scurvy. A disease due to impaired nutrition.

Sea Tangle. A water plant, which in its dried state is introduced into a canal and dilates the canal as it expands by the absorption of moisture.

Sebaceous Glands. The oil tubes of the skin. Illus. page 71.

- Secretion.** The process by which substances are separated from the blood.
- Sedatives.** Medicines which allay irritation or irritability of the nervous system.
- Sedentary.** Requiring much sitting.
- Self-abuse.** Excitement of the sexual organs by the hand or other unnatural method.
- Self-pollution.** See **Self-abuse**.
- Semen.** The secretion of the testicles which is thrown out during sexual intercourse and contains the principle of generation.
- Semi-fluid.** Half fluid.
- Semi-lunar Valves.** Valves in the heart. See 9 and 17, Fig. 41, page 58.
- Seminal Vesicles.** Reservoirs for the sperm.
- Septic.** That which corrodes or produces putrefaction.
- Septicæmia.** Blood poisoning; usually by absorption.
- Sequel.** That which follows; the condition or malady which follows a disease.
- Serous.** Watery. Pertaining to the serous membrane.
- Serous Tissue.** The membranes lining the closed cavities of the body, which secrete a watery, lubricating fluid.
- Shock.** Sudden depression of vitality occasioned by injury.
- Sitz Bath.** See page 368.
- Sloughing.** The process of separating a mortified part from a healthy part, through the agency of pus.
- Smell, Nerves of.** Illus. page 111.
- Solar Plexus.** Described on page 104.
- Solvents.** Those chemicals which break up or dissolve substances.
- Sordes.** Foul accumulation on the teeth, noticed in fevers.
- Sound.** An instrument for exploring cavities or canals for diagnosis or treatment.
- Specialty.** That to which special attention is given.
- Specific Gravity.** Comparative weight; as between urine and water.
- Speculum.** An instrument for examining cavities. Illus. pages 734 and 735.
- Sperm.** See **Semen**.
- Spermatic Cord.** The mass of arteries, veins, nerves, absorbents and their coverings, which passes along the groin and over the pubic bone, to the testicle.
- Spermatorrhea.** Described on page 772.
- Spermatozoa.** More than one Spermatozoon.
- Spermatozoon.** An active, fecundating seminal element.
- Sphincters.** Round muscles which close natural openings.
- Sphygmograph.** An instrument for examining the heart. Illus. page 548.
- Spicula.** A small pointed piece of bone.
- Spinal Column.** The twenty-four bones, which, situated one above the other, form the backbone.
- Spinal Cord.** Described on page 90.
- Spirometer.** A gauge of chest capacity. Illus. page 392.
- Sponge Tent.** Compressed, dried sponge previously treated with Gum Arabic, used for dilating the uterine canal.
- Sporadic, Sporadically.** A term for diseases which appear frequently, independent of epidemic or contagious influences.
- Sprain.** A straining or rupture of the fibrous parts of a joint.
- Staphyloma.** Protusion of the eye, sometimes with loss of sight.
- Sterility.** Barrenness. Inability to bear children.
- Sternum.** The breastbone.
- Stethoscope.** An instrument for examining the heart and lungs.
- Stimulants.** Medicines which increase the vital activity of the body.
- Stool.** Evacuations of the bowels. Dung.
- Strabismus.** Cross-eyes.
- Strangulated.** Caught or fastened in the hernial canal.
- Striated.** Grooved or striped.
- Stricture.** A contracted condition of a canal or passage; of the food pipe, rectum, urethra, etc.
- Structural.** Belonging to the arrangements of tissues or organs.
- Strumous.** Scrofulous.
- Stupor.** Great diminution of sensibility.
- Stye.** A little boil on the eyelid.
- Styptic.** An external astringent wash.
- Sub-acute.** A moderate form of acute.
- Sudoriferous Glands.** Minute organs in the skin, which secrete the perspiration. Illus. page 70.
- Supporters (Uterine).** Instruments intended to hold the womb in its natural position.
- Suppression.** Stoppage or obstruction of discharges; as urine, menses, etc.
- Suppuration.** A gathering. Formation of pus, as in an abscess or ulcer.
- Suture Pins.** Pins or needles, which are passed through the edges of wounds to bring them together. Thread is then wound around the pin to hold the edges in place.
- Sutures.** The ragged edges of bones by which they are joined to each other.
- Stitches of thread** to bring the edges of a wound together for their union.
- Sympathetic Nerve.** Defined on page 101.
- Symptom.** A change in the body or in its functions which indicates disease.
- Symptomatic.** Pertaining to symptoms.
- Synovial Membrane.** The lining of a joint, which from its oily secretion allows the bones to move freely upon each other.
- Synovitis.** Described on page 453.

T

- Tapping.** Removing collected fluid by introducing a hollow tube through the flesh.
- Temperament.** Peculiarities of the constitution manifested by traits which we denominate character.

Tenesmus. Straining at stool.
Tent. A compressed, dried cylinder of sponge, previously treated with Gum Arabic, which enlarges the canal in which it is placed by expansion from the absorption of moisture.
Testicles. Described on page 775.
Thermometer. An instrument for determining temperature.
Thoracic Duct. A canal which carries the chyle from its repository in the abdomen to the large vein in the chest, near the heart.
Thorax. Chest.
Tinctures. Medicines held in solution by alcohol.
Tonic. Defined on page 350.
Topical. Local.
Topography. Description in detail of a place; in hygiene, to determine its adaptability to residence.
Terminal. Gripping of the bowels.
Torticollis. Stiffness or contraction of the muscles of the neck. Wryneck.
Trachea. Windpipe. See page 63.
Translucent. Transmitting light, but not permitting objects to be seen distinctly.
Transudation. Passage of liquid through the tissues of the body.
Traumatic. Relating to a wound or injury.
Trephining. Removing a piece of bone by a cylindrical saw.
Triturate. To pulverize.
Trocar. An instrument for removing fluids from cavities. It consists of a perforator within a cylinder.
Truncated. Shaped like a pyramid with its top cut off.
Truss. A mechanical appliance for preventing protrusion or strangulation. Hernial support.
Tubercle. See pages 445 and 498.
Turn of life. The change of life when menstruation ceases.
Twilight Sleep. The morphine-scopolamin treatment for painless childbirth, originated in Freiburg, Germany.
Tympanum. Eardrum. Illus. page 109.

U

Umbilical. Of the navel; as umbilical hernia. Illus. page 364.
Umbilical Cord. A cordlike substance which conveys the blood to the foetus from the placenta or afterbirth.
Umbilicus. The navel.
Unstriated. Not grooved or striped.
Uræmic. Pertaining to blood poisoning from the presence of urea in the circulation.
Urates. The pinkish deposit found in urine.
Urea. A constituent of the urine.
Ureters. The canals leading from the kidneys to the bladder. Illus. page 85.
Urethra. The canal leading from the bladder outwards, by which the urine is voided.

Urethrotomy. The operation for opening the urethra for the removal of stricture.
Uric Acid. A constituent of the urine.
Urinary Fistula. Abnormal communication between the urinary passages and the surface.
Urino-genital Organs. Pertaining to the urinary and sexual organs.
Uterine. Belonging or relating to the womb.
Uterine Cavity or Canal. From the mouth of the womb to a constriction called the internal orifice, is a cylindrical space called the canal. Above this to the fundus or base is a triangular and flat space called the cavity.

V

Vagina. A canal, five or six inches long, situated between the vulva and womb.
Vaginal. Pertaining to the vagina.
Vaginismus. Irritable vagina.
Valves of the Heart. See page 58.
Varicocele. Described on page 802.
Varicose. Veins that are twisted or dilated.
Vascular. Belonging or relating to vessels.
Vascular System. The heart and blood-vessels.
Veins. The vessels which return the blue blood to the heart.
Venereal. Syphilitic.
Ventricles. Chambers in the heart. See 5 and 14, Fig. 41, page 58.
Vermifuge. A medicine which destroys or expels worms.
Version. Displacement of the womb forwards or backwards.
Vertebra. The twenty-four bones which joined together form the backbone.
Vertebrates. Animals having the jointed skeleton within; distinguishes between these and insects, worms, oysters, jelly fish, etc.
Vertigo. Dizziness or swimming of the head.
Vesicles. Small bladders or sacs. Pimples.
Vesicular. Belonging to or containing vesicles.
Villi. Minute threadlike projections.
Virile Power. Masculine vigor. Sexual vigor.
Virus. Poison. The agent which transmits infectious disease.
Viscera. (Plural of Viscus.) More than one internal organ.
Viscous. Sticky. Tenacious.
Viscus. Any internal organ.
Vitreous Humor. The fluid in the eye behind the lens. Illus. page 107.
Volitive Temperament.
Vulva. The external organs of generation in the female, or the opening between these projecting parts.

W

Walls. The sides of an enclosure, as the walls of the vagina, which to some extent support the womb.
Whites. Described on page 727.



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